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ABSTRACT

To generate information relative to job mobility which could be helpful to occupational administrators in hiring and meeting in-service education needs, questionnaires were sent to a two percent representative sampling of occupational educators in the U.S. The sample was divided by type of school (regular and comprehensive, secondary and post-secondary vocational, and junior and senior colleges with occupation programs of less than the baccalaureate level); area of specialization (nine occupational groups); and by the mobility variable ("stable" referred to occupational educators expecting to remain in the school systems for five or more years from the time of the study; "mobile" educators were those who planned to leave within that time period). A series of chi-square analyses determined that 33.3 percent of the sample were mobile. Discriminant analysis determined eighteen of the best discrimination variables pertaining to personal characteristics, geography, and demography. Those results were also discussed and analyzed to understand mobility of occupational educators in a broader sense. Hopefully, the study will serve as a base for more sophisticated and refined research on the labor market and mobility of occupational educators. A twenty-page bibliography and 100 pages of explanatory data, narrative, and correspondence conclude the document. (AG)

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THE CHARACTERISTICS OF "MOBILE" AND "STABLE" OCCUPATIONAL EDUCATORS BY SPECIALTY AND BY TYPE OF SCHOOL

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Conducted By
A. Emerson Wiens

Final Report: Contract No. PDT-A3-063
November, 1973
Rupert N. Evans, Principal Investigator

Bureau of Educational Research
University Of Illinois
Urbana, Illinois

CE 000 839

in cooperation with the **State of Illinois Board of Vocational Education and Rehabilitation** and the **United States Office of Education** as authorized by the **Education Professions Development Act, Part F**

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PREFACE

This study was conducted pursuant to an EPDA 553 grant from the U.S. Office of Education and the Division of Vocational and Technical Education, Board of Vocational Education and Rehabilitation for the State of Illinois (Contract No.: PDT - A3 - 063), with Dr. Rupert N. Evans as Principal Investigator.

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CHAPTER I

INTRODUCTION

Labor market forecasts are made systematically by agencies in many fields and at many different levels. Such forecasts are considered essential for government decision makers, manpower and educational planners, vocational counselors, and individuals seeking career information. An agency which devotes considerable resources to analyzing supply, demand, and employment data is the Bureau of Labor Statistics (BLS) of the U.S. Department of Labor. Although the forecasts based on their analyses are the most detailed and comprehensive available, they "suffer from one serious flaw: they have usually turned out to be incorrect as often as correct... [Bezdek, 1972, p. 1]." The development of policies and programs based on faulty labor market forecasts may result in a waste of financial and human resources and, in so doing, reduce the efficiency of the labor market.

The business of making projections is at best a complex task. If the forecaster wishes to make long range projections, he may miss some immediate needs. On the other hand, if he focuses his attention on immediate needs, his projections may be short-sighted. The same problem may plague the counselors and educators who, even in the last half of the 1960's, were encouraging students to pursue the educational professions in spite of projections based on existing population figures and trends, that indicated that the phenomenal growth in the need for educational personnel would be decreasing around 1970 (U.S. Department of Health, Education, and Welfare, 1966b, pp. 40-41). Many young people did not discover the real facts about employment opportunities in their fields until they were well along in their undergraduate program or, worse, were seeking employment after graduation.

A second difficulty in making accurate labor market projections stems from a lack of identification and/or understanding of those factors that influence the respective labor markets and a resultant tendency to undergird projections with questionable assumptions (Hansen, 1965).

A third major problem faced by the manpower forecaster is that policy changes may render previously valid assumptions and predictions invalid. The anticipated effects of a policy change in regard to BLS manpower projections illustrate this problem. The BLS 1980 manpower forecasts were based on a series of assumptions about the performance of the American economy over the next decade (Stewart, 1970, pp. 4-5):

(1) The United States will no longer be fighting a war although a "guarded relationship" between the major powers will permit only a slight reduction in defense spending.

(2) The institutional framework of the American economy will not change radically.

(3) Economic, social, technological, and scientific trends will continue at recent rates.

(4) Unemployment will be controlled without reducing the long-term economic growth rate.

(5) Congress will channel more funds to State and local governments.

(6) Efforts to solve the problems posed by pollution and waste disposal will not significantly dampen the long run potential rate of economic growth.

(7) Fertility rates will continue to decrease.

Bezdek (1972) and his staff demonstrate how an economy committed to domestic social and economic programs will have very different manpower needs from those of an economy heavily committed to defense-oriented programs.

Thus, a change in policy will have considerable impact on the assumptions and projections made. Bezdek suggests that what is needed are alternate models based on different assumptions.

A fourth major problem which often results in useless projections is the failure of the forecaster to disaggregate the labor force for which he is forecasting. This error is common when gross projection figures are given on the shortage or surplus of workers within an occupational field, and no attempt is made to break down the occupational field into its component parts. For example, the forecasts of demand for various types of vocational educators were predicted on the general assumption of a 7 percent increase in local personnel and a 5 percent increase in state personnel. These rates were then assigned to all areas of specialization within vocational education although growth rates during the period used for prediction had been as high as 200 percent in one area (U.S. Department of Health, Education, and Welfare, 1967).

Individual labor markets in the American economy are, of course, affected differently by changes that influence the total economy. At the same time specific labor markets are affected often by unique variables. The field of vocational education, for example, is very dependent on the economy of the surrounding community which is itself subject to the state of the economy at large. Evans (1971) stated that there has been a tendency in the past to tie the

> demand for vocational education . . . not to the number of students needing education, but rather to the number of job vacancies for youth and adults. When there is a job market of constant size, vocational education is expected to supply only replacements due to death, resignation and retirement.

> When there are shortages of workers, vocational education is expected to supply replacements plus personnel for expansion. When there is a surplus of workers, vocational education is supposed to die temporarily until natural replacements use up the surplus [p. 248].

Thus, it may be said that the need for vocational education derives from the manpower needs in society as well as from the demands of the enrollees. The need for vocational educators is in turn derived from the demand for vocational education. To the degree to which vocational education attempts to meet the manpower needs of society, vocational education will be continually changing to reflect the shifting needs of the labor force. Such shifts have dominated the economic scene of this century. In this century, the labor force has changed from an agrarian economy to an industrial goods-producing economy to a services-oriented economy. Tables 1.1 and 1.2 demonstrate this shift.

TABLE 1.1

OCCUPATIONAL DISTRIBUTION OF THE EMPLOYED POPULATION, 1900-1969
(Shown in Percent)

Major Occupational Group	1900	1947	1960	1969
White-collar	18	35	43	47
Blue-collar	36	41	37	36
Service	9	10	12	12
Farm	37	14	8	5

Source: adapted from Wolfbein, 1971, p. 46.

TABLE 1.2

OCCUPATIONAL DISTRIBUTION ACCORDING TO FUNCTION
(In thousands)

Industry Function	1947	1969
Goods-Producing Industries	26,373	27,766
Service-Producing Industries	25,399	45,981

Source: adapted from the Bureau of Labor Statistics, 1969.

The shift from the agrarian economy to the white-collar dominated economy required an increase in formal occupational education. Furthermore, the skills required of the blue-collar group have, in many cases, become more technical and have required more training. The government has stimulated the development and growth of programs for both the initial training and the retraining of workers. Table 1.3 summarizes the enrollment and teachers employed in federally reimbursable vocational education programs by vocational area.

The figures in Table 1.3 are those for vocational education programs in the public schools which account for approximately 70 percent of the total formal vocational education in this country (private vocational education enrolls about 20 percent while Job Corps, MDTA, and other Labor Department programs contribute approximately 10 percent) (Foran and Kaufman, 1971, pp. 138-139).

The drop in agriculture enrollees in the time period shown may be indicative of the decreasing number of persons directly involved in agriculture. Large gains were registered, however, in the health occupations programs, reflecting rapidly expanding manpower needs in the health area. An increasing commitment by the government to meet the occupational needs of disadvantaged and handicapped persons is reflected in the table. However, since programs for the disadvantaged and handicapped were reported within the respective occupational areas in 1966, the real changes in this area are difficult to compare.

TABLE 1.3

ENROLLMENT AND NUMBER OF TEACHERS IN VOCATIONAL EDUCATION BY PROGRAM, FISCAL YEARS 1966 AND 1971[1]
(In thousands)

Program	Enrollment[2]		Teachers	
	1966	1971	1966	1971
Agriculture	907	845	12	13
Distributive Education	420	578	8	12
Health	84	270	4	13
Homemaking, Gainful Home Ec.	1,898	3,130	26	38
Office	1,238	2,227	23	49
Technical	254	314	8	15
Trade and Industry	1,269	2,075	39	59
Other	---	---	5	7
Special Programs	---[3]	1,087	---[3]	30
TOTAL	6,070	10,495	124	212

[1] Adapted from Vocational and Technical Education: Annual Report/Fiscal Year 1966 and Summary Data - Vocational Education/Fiscal Year 1971. Statistics on teachers include all full-time and part-time secondary, post-secondary, and adult teachers aides.

[2] Local school districts usually turn in enrollment figures which contain duplication because some students are enrolled in more than one program (Foran and Kaufman, 1971, p. 150).

[3] Already added in as part of other program areas.

In the five years 1965 to 1970, secondary school enrollments in vocational programs alone rose from 2.8 to 5.1 million; post-secondary enrollments increased over 500 percent from 200,000 to over a million (U.S. Department of Labor, 1972a, p. 93). Much of this growth was the result of the allocation of government monies for vocational programs. Another influential factor has been the growing acceptance of the idea that a traditional four-year college education is not for everyone. Coupled with this idea has been an emphasis on the emerging community college as an institution committed to provide terminal occupational education as well as a transfer program (Medsker, 1964, pp. 173-174; Monroe, 1972, pp. 33-35).

The idea that an education of less than a baccalaureate degree is not dishonorable has been supported by cold reality in the early 1970's. The post-World War II baby boom, the government spending in the 1960's aimed at increasing the professional and technical manpower to staff the growing schools and an expanding economy, and efforts to reduce the student-teacher ratio in the public schools all contributed to the production of a large labor market pool of highly educated personnel (U.S. Department of Labor, 1972a). In colleges and universities, both enrollments and teaching staffs doubled in the 1960's. While the number of baccalaureate degrees earned increased by over 100 percent during this period, doctorates were awarded at a rate of more than 200 percent over the previous decade. But with a reduction of federal research funds and a reduced rate of college enrollment resulting from decreased birth rates, decreased draft lottery influence, reduction of student aid in some areas, and the rising cost of higher education with consequential public reaction, the market for college and university instructors has become increasingly tight. At the same time, the economy as a whole experienced a reduction in its expansion rate which tightened the market for many professional and technical workers as well as for some teachers who would have found employment outside of school had such employment been available. The commonly accepted idea that an advanced degree guarantees security was shaken as the unemployment rate of professional and technical workers more than doubled from 1.3 percent in 1969 to 2.9 percent in 1971 (U.S. Department of Labor, 1972a, p. 110). College graduates in some professional, and technical areas are facing unprecedented competition in the labor market.

The phenomena described in the preceding paragraph and the somewhat ominous message it carries for those contemplating a baccalaureate or graduate program have had an impact on the career goals of many young people resulting in additional impetus for their considering occupational education. Occupational programs in new areas, particularly in the personal and public services and health areas, as well as some programs in existing areas, have been expanded. Occupational education for the paraprofessions has been an important part of this expansion.

Occupational Education: Diverse Programs and Diverse Labor Markets

Occupational education programs in the public schools are developed, operated, and, for the most part, funded by state and local agencies. As a result, considerable variation exists from state to state in terms of (1) types of programs available, (2) number of enrollees per thousand population, (3) expenditures per student, and (4) certification and recruitment of staff. Summary data for fiscal year 1970 (U.S. Department of Health, Education, and Welfare, 1971a, p. 4) indicated that 69 percent of the potential high school age students in Delaware were enrolled in vocational education while the District of Columbia was lowest with only 6 percent of its potential high school age youth thus enrolled.[1]

The same data showed that California led in the enrollment of potential post-secondary students in vocational programs with 34 percent while Vermont reported only 1 percent of their post-secondary student population enrolled in vocational programs. Expenditures per student also varied greatly from state to state. Massachusetts was reportedly high with $706 per student expended for vocational programs while Delaware reported spending only $43 per student. (U.S. Department of Health, Education, and Welfare, 1971a, p. 6)

Although some of these differences in state enrollments and expenditures are the result of regional differences in manpower needs and economy, much of the difference is directly related to state-level organization, policies, goals, and fund commitments. State-level policies are also the main determiners of the qualifications of occupational educators in most states. While most states require their occupational teachers to have two or more years of approved occupational experience before certification, a few states such as Illinois are allowing the local hiring agency to determine qualifications. The effects of the latter arrangement are not fully known. Conceivably, the practice could have the effect of expanding the supply of occupational educators since local institutions could hire individuals with little or no relevant work experience if they chose to do so. However, "Teacher education programs and certification practices are even more diverse from one vocational field to another than they are from state to state [Evans, 1971, p. 262]."

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[1] Some inaccuracy is present in these statistics because of the practice in some states of submitting lists containing duplicated names if students were enrolled in more than one program.

The differences in the career routes taken by a welding instructor, a vocational agriculture instructor, and an instructor of registered nurses are illustrative. The welding instructor may well have had no formal education beyond high school, having learned his trade on the job. The agriculture instructor, on the other hand, must complete a prescribed four-year agriculture education program in a college or university before being qualified to teach. Finally, the nurse educator must complete a formal training program and deal with a specialty area licensing agency as well as meeting teacher certification requirements.

Formal education programs and certification with a minimum of actual work experience are generally available for teachers in home economics, agriculture, and business education (Somers, 1971, p. 165). However, few formal education programs are available for teachers in the trade and industrial and distributive education areas. Actual work experience is considered nearly essential in these areas.

A major problem in attempting to make supply and demand projections for occupational educators has been the identification of their labor market. Evans (1971) wrote:

> The labor market for vocational teachers has never been defined, and predictions of supply and demand neglect the fact that teachers and administrators can and do move from employment in one occupational education program to another and from public to private employment and vice-versa [p. 262].

Observation of the whole field of occupational educators suggests that their labor market is stratified (1) by area of specialization, and (2) by level of employment. The first stratification is illustrated by the fact that preparation and work experience in one area -- for example, health occupations -- does not permit entry into any other field of specialization in occupational education. The second type of stratification is evidenced by the differing qualifications generally required of a vocational instructor as compared to a program administrator as compared to a university vocational and technical educator. The higher the level in occupational education, the greater the similarity to professional educators in academic areas. The ability to write and conduct research are important skills for all university educators but are rarely considered when hiring a vocational instructor at the secondary level. Unfortunately, the stratification aspects of the occupational educators' labor market are often ignored, especially when making studies involving the total occupational education field.

Foran and Kaufman (1971). who have attempted to make supply and demand forecasts, admitted that, "Information on staffing in vocational education is inadequate; for example, the percentage of vocational teachers graduating from schools of education is not known, nor is there information on the relative sources of ancillary personnel or administrators [p. 147]." Yet, enough data have been gathered, primarily in regional or state studies, to provide a fair picture of the sources of occupational educators although career patterns as yet have not been widely studied.

A 35 state study of trade and industrial teachers by Beaty (1966), a national study of secondary and post-secondary vocational teachers by Kay (1970), a study of Wisconsin's post-secondary vocational teachers by Gibbs (1969), and a study of community college vocational teachers in Illinois by Thompson (1972) have demonstrated the flexibility of the labor market for occupational educators as well as the importance of the nonformal-education sources of supply.

Occupational Educators: Occupational Mobility

Manpower demand results basically from the same general conditions or events in the market place regardless of type or level of occupation. Brown (1965, p. 28) found from his study of over 7,000 mobile professors that job vacancies in higher education were caused by the following conditions:

(1) Expansion demand (newly created jobs)

(2) Replacement demand

- Death
- Retirement
- Return to studies
- Vertical mobility within occupation
- Occupational mobility leaving educational occupation

(3) Shift demand (educator moved to other school)

(4) Temporary demand (on leave)

Brown found that, even during the middle sixties when higher education programs were expanding, over 50 percent of the vacancies were due to replacement needs as opposed to expansion needs. That considerable mobility exists in the field of education is indicated in a profile of elementary and secondary school teachers in Illinois, 1970-1971 (State of Illinois, 1971, p. 9), which showed that the teachers' median years of experience in their respective districts was 3.8 years. A study of Wisconsin's post-secondary vocational and technical teachers (Gibbs, 1969, p. 76) revealed that 46 percent took jobs within the three years preceding the study, a statistic that includes entries due to both turnover and program expansion. Thompson's (1972, p. 102) study of occupational teachers in community colleges in Illinois indicated that the median years of community college teaching experience of his subjects was 3.7 years. After reviewing research on occupational mobility in the United States (Lipset and Bendix, 1963; Palmer, 1954), Taylor (1968) wrote, " . . . the typical American worker probably changes his job once in every three to five years [p. 75]."

The findings in the two Illinois studies and Gibbs' study in Wisconsin indicate that teachers from elementary school through occupational teachers in the community college exhibit patterns of job mobility similar to those found in the labor market as a whole.

While local administrators are particularly concerned about any kind of mobility, the state or federal planner and the teacher educator who are interested in the total field of occupational education, may not be so concerned with internal job mobility as with occupational mobility in which the educator leaves the field of occupational education for other employment. Occupational mobility appears to occur in all occupational fields. In a study of white adult males who held professional jobs in four major cities during the decade 1940-1950, Carr-Saunders (1955, pp. 280-281) found occupational mobility to be as high as 35 percent in one professional category -- the "would-be" professions.

In the field of education, some findings indicate even greater occupational mobility. Carlson (Schneider, 1973) in researching school superintendents, found that only about 10 percent of all male teachers last longer than five years in the profession. Brown's (1967, p. 28) study of the mobile professors revealed that approximately 16 percent of the replacement demand resulted from professors taking employment with business or government on a permanent basis. Due to the related work experience requirement in most states, the majority of occupational educators obviously have worked in an occupation other than their current occupation as an educator. Thompson (1972, p. 84) found that 67 percent of the Illinois community college occupational teachers in his study cited on-the-job training as a method by which they acquired their technical subject competencies. But few follow-up studies have been done to determine the occupational stability of occupational educators. The findings that more than half of the vocational teachers have fewer than ten years of teaching experience (Kay, 1970, p. 3; Thompson, 1972, p. 91) are helpful but do not tell us enough about occupational stability.

That certain benefits accrue as a result of mobility can not be denied. Mobility is functional or beneficial (Brown, 1967, pp. 31-33; Taylor, 1968, pp. 66, 83) as it:

(1) Enables the labor force to be geographically and technologically situated in those places where it is most needed.

(2) Constitutes a mechanism for the individual to achieve success and career fulfillment.

(3) Aids in the dispersion of new ideas, new orientations, new courses, new vitality.

(4) Contributes to a varied exposure and a broader perspective for the student.

(5) Enables an institution or agency to locate the personnel so they can develop the kind of program they wish.

Thus, mobility has benefits for three groups: the individual making the move, the agency hiring, and society at large. On the negative side, however, several "costs" and liabilities need to be recognized. Mobility can be said to be dysfunctional as it:

(1) Contributes to unemployment due both to technological displacement and geographical relocation.

(2) Usually results in a loss of time and wages while the individual is in the process of changing.

(3) Contributes to the frustration and psychological and sociological adjustment problems of the individual and his family.

(4) Costs the hiring agency money and effort to reorient and, where necessary, retrain the worker.

(5) Contributes to discontinuity and instability in academic and administrative programs and, hence, in the student's educational sequence. (Brown, 1967, p. 32, found that the colleges in the bottom prestige category faced a 20 percent faculty turnover which was much higher than that for higher prestige institutions; his conclusion was that mobility affects institutions unequally.)

Just how much mobility is beneficial is not clear. Undoubtedly, the amount of mobility which would maximize the ratio of benefits to costs would vary between educational institutions, dependent on such factors as the nature and level of the programs served and the volatility of the subject matter of the programs (Stern, 1972). Concerning the large turnover of college faculty during the 1962-63 academic year, Brown (1967) stated, "In a market that is expanding as rapidly as the academic labor market is at this time, the large rates of replacement- and shift-caused turnover are probably more detrimental than beneficial to the institutions. The vitality and the fresh view offered by new faculty could be lent by 8 percent per year faculty expansion [p. 32]." While Brown's analysis may be correct, less than ten years later, university manpower planners are worried about very different conditions of zero expansion and low shift-caused turnover.

Statement of the Problem

It may be assumed, then, that "excessive" mobility as well as too little mobility is inefficient and has a negative effect on the individual, the institutions involved, and/or society as a whole. Of particular interest in occupational education and in this study are the vacancies that occur as a result of individuals changing schools, and, more particularly, the vacancies that result from individuals leaving the field of occupational education for employment in another field. The nature of the labor force of most areas in occupational education is such that the educators have salable skills outside the educational institution and often have previously established occupational reference groups outside of education. For example, registered nurse educators consider themselves to be in a profession prior to their becoming educators, as well as during and after employment in education. Though the welding instructor may not consider welding a profession, he or she has close ties to it, and considers it, periodically, as an alternate source of employment.

The relative ease with which many occupational educators can move into and out of educational positions causes considerable problems for those individuals or agencies who need to predict occupational education manpower supply and demand. Somers (1971) put the problem in perspective when he stated:

> The mobility of vocational educators -- among educational systems, among school levels, among program areas, and among alternative types of employment -- makes it impossible to discuss a balance between supply and demand of teachers in a particular level, such as vocational education, in isolation from all of the other levels and types of programs [p. 168].

With which other labor markets do the labor markets of occupational educators overlap? Evans (1971) offered the following list:

A. Manpower Development and Training Act Programs, especially institutional programs such as Skills Centers

B. Office of Economic Opportunity occupational programs

C. Job Corps

D. Opportunities Industrialization Centers

E. Vocational Education in federal prisons (and in a few state prisons)

F. Private trade schools, many of which operate training programs under contract to the federal government, as well as programs supported by tuition

G. Training programs in private business and industry

H. Armed forces occupational programs

I. Baccalaureate technical programs [p. 238]

But the overlap does not stop here, according to Evans (1971). To the above list one must add industrial arts teachers, non-vocational home economics teachers, and non-vocational business teachers, "some of whom are available for vocational teaching under certain conditions [p. 239]." To this already large list, must be added a myriad of jobs and occupations outside the field of education, jobs from which many educators came and to which many can return.

The size of the independent occupational education sector and its contribution to occupational training are often underestimated. A study in 1963 (U.S. Department of Labor, 1964) reported that 27.3 percent of the 3.5 million skilled workers trained that year were trained by independent trade, correspondence and technical schools (including armed forces schools). A recent study by Katz (1973, pp. 47, 51) revealed that Illinois alone has 393 private occupationally-oriented schools and divisions which enroll approximately 569,000 students annually. (Katz's list is not complete since it excluded the hospital-based programs which include more than 50 X-ray programs and 60 medical technology programs.) Recent statistics by the Department of Labor (1973, p. 227) showed that 1,562,300 enrollment opportunities existed in 1972 work and training programs administered by that federal branch.

Labor market overlap of the sort indicated by Evans is rarely, if ever, taken into consideration when projections are made. Furthermore, the fact that teachers can be drawn directly from business and industry if the positions in education are made attractive enough, tends to further expand the labor supply to an undetermined level. But the noneducational sector of the economy has just as much potential to siphon vocational educators as it has to be a source of supply, depending on the state of the economy at the moment.

An understanding of the mobility of occupational educators is, therefore, an essential prerequisite to making manpower forecasts in this field. Also, an understanding of the mobility of occupational educators would be most helpful for recruiters and program planners at all levels in order that policies, procedures, and organizational structures, where affected, could be based on more factual information.

One approach for an agency which is attempting to understand the mobility of a specific occupational group is to initiate a study of job satisfaction. Such a study usually leads to certain general, descriptive statements regarding which factors are primarily satisfiers and which are dissatisfiers, and, in some cases, to a consideration of the relationship between these factors and staying on or leaving the job (Balyeat, 1968; Evans and Maas, 1969; Herzberg, 1959). While these studies have been useful in contributing to an understanding of the behavior of the working individual and the identification of detrimental factors, they have been of limited use to the sociologist or economist who attempts to predict mobility and turnover and would like to be able to offer guidelines concerning, among other things, which sources of people are good risks.

An approach which offers more useful information for manpower planning is one in which the studies begin by selecting groups with important differences in behavior and attempting to identify distinctions between the groups, which can later be used as predictors. Lawlis (1971), for example, studied a group of chronically unemployed males and a matched group of employed males in the areas of motivations, personality traits, and self-concepts in an effort to see which factors discriminate between the two groups. Yet, as helpful as this information would be, no study of occupational educators has been found which was designed to develop models that would be helpful in understanding and predicting mobility. Hence, the local vocational program administrator must rely on his intuition, biases, or knowledge of studies in other labor sectors when choosing among job applicants.

Purpose of the Study

The previous discussion has indicated some of the difficulties encountered in forecasting manpower supply and demand in the occupational educator labor markets. The point has been made that the factors affecting the respective labor markets of occupational educators have not been clearly identified and are not fully understood. Several reasons have been suggested as having hampered the development of a concise model of the labor market structure of occupational educators:

(1) The labor market of occupational educators is dynamic because it is dependent on an economy which has an ever-changing labor force which -

- is a product of technology
- reflects the changing appetite of people
- reflects the commitments of a society and its government
- responds to the world situation

(2) Longitudinal data are often not available for extrapolation purposes; data are often of a gross nature and do not allow necessary disaggregation.

(3) The methods of meeting manpower training needs are changing, e.g., the role of the community college in occupational

education is expanding rapidly; methods are developing in different ways across the country.

(4) Public attitudes toward different aspects of education are changing.

(5) The labor market of occupational educators has not been defined; sources of supply and causes of mobility are not fully understood.

(6) A model of occupational educator employment stability is lacking (McNamara, 1970, p. 78).

The primary purpose of this study was to generate information relative to job mobility which could be helpful for the local occupational program administrator in hiring personnel and in meeting in-service education needs. This information consisted of the identification of certain demographic, occupational, and other personal characteristics that discriminate between those occupational educators who have a propensity to stay in a school system and those who have a propensity to leave a school system.

Furthermore, it was anticipated that the findings in the study would provide additional help for understanding the mobility of occupational educators in a broader sense. This, in turn, could be useful to manpower forecasters.

Finally, the study had the purpose of providing a base for more sophisticated and refined research on the labor market and mobility of occupational educators.

For purposes of analysis the study sample was divided initially into two groups:

1. Stable educators were defined as those occupational educators who expected to remain in the school systems in the study for five years or more from the time of the survey.

2. Mobile Educators were defined as those occupational educators who expected to leave the school systems in the study within the five years following the study for reasons other than retirement, and those occupational educators who had left the schools in the study within the five years preceding the study for reasons other than retirement.

Limitations of the Study

The educators in the study were grouped into nine major categories. Although the occupational areas in each field are believed to have some commonalities, to group them in a study of this type assumes certain similarities in labor market behavior among the various areas of specialization within each major field. While this assumption may be tenable in some fields, e.g., the technical occupations are thought to be more homogenous than some others, it is more questionable in fields such as personal and public service in which the range of occupations is from police science to cosmetology to child care to home economics. However, to separate this population into the 50 to 100 specific occupations represented would render the analysis difficult if not impossible. Grouping is considered a limiting but necessary compromise between attempting to study the behavior of occupational educators representing specific occupations, and the other extreme of studying all occupational educators as one group as if they were composed of one population.

The analysis of the data in this study relied for the most part on a crude measure of employment mobility: expected job change. This measure was crude in that it did not take into consideration actual mobility except for those few educators who had left the schools. In an extensive study of mobility across labor market boundaries, Lansing and Mueller (1967, p. 24) found that about half of the people who expected to move during a year actually did so. No data were found on the reliability of expectations over a five year period.

This study was exploratory in that no known previous study had been designed to identify those characteristics of occupational educators which correlate highly with and may contribute to an occupational educator's leaving or staying with a school system. Since the study was exploratory, it is likely that data on some distinguishing characteristics were not gathered and included in the analysis. To a degree, considerations of cost and feasibility of data collection influenced the kind and amount of information gathered. All data in this study have been collected directly from the occupational educators in the sample, using a mailed questionnaire. Undoubtedly, some data could have been compiled better through personal interviews.

The state of the economy and its effects on the needs for vocationally trained personnel were not considered directly in this study. This factor undoubtedly affects some of the factors that were defined in the study. Thus, the generalizations generated by the study must be understood as having come from a specific economic context.

The population in the study was restricted to full-time administrators, supervisors, coordinators, counselors, and instructors in public secondary and post-secondary (but less than baccalaureate) programs, whose job assignment was 50 percent or more in vocational or technical education. The sample excluded personnel in adult education programs, in special-purpose schools such as schools for the deaf, and in private institutions. By excluding part-time educators, individuals who may have been in a transitory stage of their career and may later become full-time occupational educators were excluded.

Since the study included a follow-up of occupational educators who had left the institutions in the study during the last five years, the sample was drawn using a national directory that was six years old. This had the effect of excluding personnel in the newest schools and programs. Just how this may have affected the conclusions is not clear since the similarity or dissimilarity of the personnel in new institutions and older institutions has not been studied.

Definition of Terms

Applied biological and agricultural occupations: An occupational field which requires knowledge and skills of the producing operations of a farm (ranch, greenhouse, nursery) and, in varying degrees, the services associated with them; the manufacturing, distribution, and service of farm equipment, fertilizers and supplies; the processing, storage, marketing and distribution of farm commodities including food and fiber; and, the conservation, preservation and use of renewable natural resources.

Area of specialization: Initially, five major vocational curriculum areas were defined: Applied biological and agricultural occupations; business, marketing and management occupations; health occupations; trade and industrially oriented occupations; and personal and public service occupations. This definition is extended to include all vocational and technical education areas and levels including technical curriculum, counseling, coordination, and related curriculum.

Business, marketing, and management occupations: An occupational field which includes those activities involved in the systematic distribution of products and services. Activities include organizational supervision and management, sales, distribution, communications, record keeping and others needed to support and evaluate these functions, excluding speculative and manipulative marketing practices.

Community: A district, region, or city where people have social and economic interests, work, or other characteristics in common.

Demand: The number of vocational and technical educators that can be employed with current or future funds.

Educational attainment: The highest degree or certificate held.

Educational preparation: Those experiences acquired through formal classroom sources, including: public, private, military, and in-company. The definition is extended to embrace formalized, on-the-job training, apprenticeship, cooperative work experience programs, and correspondence courses.

Geographic mobility: Any movement which involves a change of residence from one site to another.

Geographical region: One of the nine areas into which the United States has been divided for this study: New England, Middle Atlantic, East North Central, West South Central, Pacific, West North Central, South Atlantic, Mountain, and East South Central states; definitions of these regions by the Bureau of the

Census apply. In the analysis section of the study, these regions were regrouped into four regions following Bureau of the Census boundaries: Northeast, North Central, South, and West.

Health occupations: An occupational field which requires knowledge and skills required to provide direct or indirect patient services and may include diagnostic, therapeutic, preventive, restorative, and rehabilitative services practiced under the direction of a licensed autonomous individual.

His: His or her.

Horizontal mobility: Involves the moving of one's place of employment from one employer to another with little or no change in status. This includes shifts within occupations as well as between occupations.

Industrial oriented occupations: An occupational field which requires knowledge and skills concerned with layout, designing, producing, processing, assembling, testing, maintaining, or servicing any product or commodity.

Job satisfaction and dissatisfaction: Complex emotional reactions to the job, a product of value judgments, i.e., the degree to which the person perceives the job as gaining or maintaining what he wants.

Labor force: Consists of those employed and those seeking employment in work which involves the production or exchange of goods and services for pay or for profit; in this context, the employment sought is that of occupational educator.

Labor market: All those institutions and processes relating to the purchase, sale, and pricing of labor services.

Labor market mobility: Changes in job, employer, occupation, industry, place of work, or combination of these changes. Also, the movement into and/or out of the labor force.

Ladder: The vertical, occupational mobility of an individual that involves changes in employment from one job to another of more or less social status, usually with accompanying greater or lesser responsibility and salary.

Lattice: The occupational mobility of an individual that involves a horizontal movement from one job to another of similar work but with the possibility of vertical movement from the new job.

Need: The number of vocational and technical educators who will be required to produce a given level or amount of service judged to be desirable.

Occupational education: see vocational and technical education.

Occupational mobility: The movement of an individual from one occupation to another occupation; status change is immaterial.

Personal and public service occupations: An occupational field which requires knowledge and skills required to provide services desired and/or needed by the consumer or the community. They include such services as those related to government, education, health, welfare, safety, recreation, and beautification.

Previous job: The respondent's work experience prior to his current job excluding summer employment.

Professional identity: An individual's identification with a particular professional group, in this case occupational educators; it involves a voluntary subscription to the standards and goals of that profession and is usually further expressed by membership in the official organization of the profession.

Reference group: Any group in which a person is motivated to gain or maintain acceptance; any group which a person uses as a reference in making evaluations of himself or others.

Supply: All individuals whose previous experiences make them eligible for employment as occupational educators.

Technical education: The broad range of post-secondary educational experiences which are designed to prepare individuals for a career which usually requires less than a four year degree for job entry; it prepares individuals for the occupational area between the skilled craftsman and the professional person.

Vertical mobility: Refers to movement upward or downward within a given occupation or to a higher or lower ranked occupation.

Vocational and technical education: The broad range of educational experiences which are designed to prepare individuals for a career which usually requires less than a four year degree for job entry. Synonymous with votec education and occupational education.

Vocational and technical educator, votec educator, occupational educator: A full-time employee whose assignment is 50 percent or more in the area of vocational or technical education as an instructor, coordinator, counselor, or administrator.

Work experience: Any full- or part-time employment experienced by the respondent at any time after leaving high school.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter has been divided into five sections: the first part reviews several major theoretical or conceptual models for understanding mobility in the labor market: the second section is a brief discussion of career patterns and components: in part three literature dealing more specifically with the mobility of occupational educators is reviewed; the fourth section focuses on the identification of variables which have been used in mobility research in various fields; the final section summarizes the review with respect to the study itself. Although considerable overlap exists among the first four sections, the organization--moving from the broad and abstract to the narrow and concrete--was chosen to facilitate the review of the literature for both the writer and the reader.

Conceptual Frameworks

If one can assume that the labor markets of occupational educators are subject to essentially the same laws and pressures as other labor markets, much can be gained by studying other markets and the movement of people within and among those markets. However, in spite of the similarities that may exist between the labor markets of occupational educators and other labor markets, the markets of occupational educators appear to be subject to some unique variables, many if not all of which are not fully understood. This suggests that the study of other labor markets will be profitable for understanding the mobility of vocational educators, and that such study will help to guide, but will not substitute for, a description of the vocational education labor market.

Classical wage theory suggests that for an ideal market to function, five conditions must exist (Brown, 1967, p. 48):

(1) Entry into and exit from the market is unrestricted;

(2) Complete knowledge exists among all participants in the market;

(3) Movement of resources is instantaneous and costless;

(4) All decisions are economically rational, made in accordance with the principles of profit maximization;

(5) Decisions are made by a large number of demanders and suppliers acting independently of each other.

The degree to which these conditions exist determines the economic efficiency of the particular labor market as well as, to a large extent, the freedom of the individual to make career decisions within the labor market setting. However, this theory rests on several premises, one of which is that man is, above all, an economically rational being. The many studies reviewed in this chapter would suggest that career decisions and labor market mobility are usually influenced by certain non-economic factors as well as by those which are strictly economic.

Sociologists and psychologists have offered several conceptual frameworks for describing job mobility and career causality. Miller and Form (1964, pp. 582-585) rejected both the individual causation theory of career patterns and the social causation theory of career patterns in favor of an "equilibrium" theory that suggests that career patterns are determined by four forces which act on the individual worker: social background, native ability, historical circumstance, and acquired personality traits.

Katzell, Korman, and Levine (1971, pp. 4-10), when looking more specifically at job changes, described a conceptual base for understanding worker mobility which suggested that mobility is a result of two processes: occasion and choice. Occasion was defined as a set of circumstances, beyond the control of the individual worker, which define whether or not mobility is possible. Examples of occasion are the state of the labor market and the personnel practices and policies of individual agencies and institutions within the field. Choice was defined as the process whereby a person makes a decision about changing his job status. Choice is based on one's goals, the priority ordering of those goals, and one's perception of the degree to which a specific experience or employment will help him attain his goals.

Katzell further noted that man is inclined merely to satisfy his goals or values rather than to maximize them; hence, people tend not to seek out the jobs which best fit their goals but will settle for a job that approximates them. Several methods for predicting job mobility were suggested:

1. Predictions can be made by gathering and utilizing information on the individual's goals (and aversions) and his expectations concerning the extent to which the available alternative jobs will provide them. (The likelihood of not getting a certain job may influence an individual to choose a job which differs from his preference.)
2. Demographic data can be used to make predictions on an actuarial or statistical basis since people having certain characteristics are more likely to have goals that are better satisfied in one type of job than another.
3. Predictions can be made to some extent on an actuarial basis utilizing information about the characteristics of the community, agency, and job, since there is some similarity of goals among workers in a particular field; hence, features of certain work settings are more likely to prove attractive to one group of individuals than to another.

Further discussion of the data necessary for each of the three methods and the problems associated with collecting and utilizing such data is included in the final section of this chapter.

Katzell's reference to the labor market as an "occasion" factor acknowledges an important element that cannot be ignored. Matching a person's goals, expectations, and demographic data to a job having specific characteristics is a futile exercise if that job does not exist in reality or if no entry to it will be available in the foreseeable future. Structural changes in the economy have changed the face of the labor force (see Tables 1.1 and 1.2) so that, for example, the majority of farmers' sons have not been able to follow their father's occupation even if they desired to do so. Another interesting phenomenon in this regard is that while structural changes are taking place that result in the need for an increasing proportion of professional and white collar workers, differences in the rates of fertility result in disproportionately fewer children being born to families whose heads are in higher status occupations. Lipset and Bendix (1959) stated that, "In all industrialized countries for which we have data, fertility tends to vary inversely with income [p. 58]." Consequently, upward mobility is facilitated for many lower class young people in spite of the fact that sons have a tendency to follow their father's occupation.

Based on a 1957 study of 1,023 adult males living in private households, Jackson and Crockett (1964, p. 7) and Taylor (1968, p. 73) concluded that occupational transmission in the U.S. in 1957 was closer to open equality (father's occupation has no effect on son's occupational choice) than to maximum inheritance (sons follow occupational level of father). Blau and Duncan (1967) used a 1962 population of nearly 40,000 adult males to study intergenerational mobility. They concluded (p. 36) that occupational inheritance was greater in all cases than expected on the assumption of open equality, that upward mobility was more common than downward (occupational structure change accounted for considerable upward mobility), and that short-distance moves were more prevalent than long-distance moves. Few studies have been done on the occupational mobility of women. Perhaps this is because American society is only now beginning to recognize women as a permanent part of the labor force. For that matter, the mobility of women in the job market has been so restricted by discriminatory societal norms that studies of the voluntary mobility of women in the labor market may reveal more about the effects of societal restrictions than of voluntary mobility.

The groupings that are used by the researcher form one factor that will influence his conclusions. If the question is stated: "What percentage of the sons of professionals enter professional occupations?" a larger percentage figure will result than if the question is stated more narrowly: "What percentage of the sons of teachers become teachers?" A third approach is to note the percentage of people in a specific professional category, e.g., teaching, whose fathers were in a profession. This usually results in a figure intermediate between the other two. Pavalko (1971, pp. 71-72) compared a number of studies which were based on this latter approach. The following percentages of people in specific professional occupations reportedly had fathers in "professional" occupations: medicine - 28 and 22 (Gee, 1957, p. 143; Becker, et al., 1961, p. 61); social work - 19 (Pins, 1963, p. 44); engineering - 19 (More, 1957); teaching - 14 (elementary and secondary teachers, National Education Association, 1963, p. 15); college teachers - 16 (Eckert and Stecklein, 1961, p. 11).

Workers demonstrate considerably more mobility than that which results from layoffs, terminations, and expansion. The motivation to make a voluntary move is inseparably linked to an individual's goals and values (Katzell, et al., 1971, p. 7). While some voluntary mobility decisions are made because of a worker's reactions to elements in his job environment, some other voluntary mobility decisions result from a desire for higher status and/or more money.

> The tendency . . . is constantly to make [one's] present pecuniary standard the point of departure for a fresh increase of wealth; and this in turn gives rise to a new standard of sufficiency and a new pecuniary classification of one's self as compared with one's neighbors [Veblen, 1934, p. 31].

Lipset and Zetterberg (Lipset and Bendix, 1959, p. 61) described the phenomenon this way:

> Because a person's self-evaluation reflects the ranking he receives from his fellows, he will either try continually to increase his prestige rank as an individual, or he will seek group support for his claims to prestige. In either case, it may be said that people like to protect their class positions in order to protect their egos, and improve their class positions in order to enhance their egos.

Lipset and Zetterberg's point may be illustrated in part by the tendency of persons to rank the prestige of their own occupation higher than do others not in the occupation (Hall, 1969, pp. 268, 274), and by the apparent lack of identification with one's occupation exhibited by many workers in lesser-skilled occupation (Palmer, et al., pp. 14-24).

The quotations from Veblen and Lipset and Zetterberg suggest that people are alike in their upward striving, but statistics by Swerdloff (1952) and by Davidson and Anderson (1937, p. 73) indicated that even within a given age cohort, the number of job changes made per individual varies considerably from one group to another. In his study of skilled craftsmen, Swerdloff found that in a ten year period, 60 percent of the moves were made by only 14 percent of the workers. Chamberlain (1965, p. 40) suggested that this small, very mobile cadre can be classified into three primary groups: (1) the young; (2) the dissatisfied; (3) and the ambitious. Some overlap of these three groups appears likely, but more will be said about these attributes in the last section of this chapter.

Some questions related to the mobility of occupational educators are raised by the foregoing discussion. Is there a greater tendency for occupational educators who made an obvious move upward in occupational status when they became educators, to identify quickly with their new occupation (e.g., for some educators, the move constitutes a change from a manual job to a nonmanual job)? Will such individuals demonstrate a higher stability rate than those who are reluctant to identify with occupational educators as a whole (a condition that may be present among persons entering occupational education from another occupation of similar status having, perhaps, a strong, professional organization)?

In summary, several conceptual frameworks have been developed for studying mobility: from the ideal-type classical wage theory construct to the more worker-centered socio-psychological model. Based on the latter, three methods were proposed for making predictions concerning job mobility. These methods could be used independently or strengthened by using the three in one model.

Career Patterns and Components

The concept of "career" has been defined differently by different authors. While Evans and McCloskey (1973) define an "ideal career" from the standpoint of the individual as "a succession of work experiences, each of which is personally more satisfying than the one which precedes it," many researchers (e.g., Taylor, 1968, p. 266, and Wilensky, 1960) define career as a succession of related jobs, hierarchical in prestige, with ordered directions for an individual to pass through them in a predictable sequence. By this definition, "most occupational men and women in the nation's labor force experience only some elements of career patterning, but less than total careers [Taylor, 1968, p. 266]." It seems equally likely that few people achieve ideal careers in Evans' sense. Perhaps the most widely used definition for career, and the definition which will be assumed in this paper unless stated otherwise, defines a career broadly as a succession of paid-work experiences extending through life, with no distinction as to increasing satisfaction or increasing status.

Miller and Form (1964, pp. 541-604) have suggested that five work adjustment periods span a full life: (1) preparatory period, representing early experiences and adjustments in the home, school, and community; (2) initial work period, identified with part-time and/or summer employment which the worker feels is "temporary" and "secondary to his school life"; (3) trial work period in which the individual takes full-time employment and truly begins his struggle to find himself in the world of work; (4) stable work period which is characterized by the worker finding a relatively permanent job (more than three years), demonstrating relatively satisfactory work adjustment, and developing a feeling of identification with his work colleagues; (5) retirement, which is characterized by the absence of a full-time job following the stable period. Strictly speaking, using the Taylor definition, the career ends after phase 4.

These work periods were formulated initially after a study by Miller and Form of the work histories of 276 men in Ohio. This study (Miller and Form, 1951, p. 712) also gave rise to the description of six types of career patterns which were found among these men, four of which were considered most common:

1. The stable career pattern in which individuals essentially skipped the trial work period by entering an occupation, often after extensive training, and did not leave that occupation; this pattern was found primarily among men in most professional and some other high status occupations.
2. The conventional career pattern in which the workers basically followed the five work periods identified above.
3. The unstable career pattern in which the workers followed a sequence of "trial-stable-trial," moving from a stable period into another trial period; this pattern was more commonly seen among men in the middle status occupations.
4. The multiple-trial career pattern in which the worker tried many occupations before "settling down"; this pattern was most often observed in the lower status occupations.

Although less research has been done on the careers of women, Super (1957, pp. 77-78) suggested that the career patterns of some women are like those of men, but for most women the career patterns are interrupted temporarily or permanently by full-time homemaking. Data in the Manpower Report of the President (1973, pp. 128-129) indicated that while male participation in the total labor force had decreased from 87.3 percent in 1951 to 79.7 percent in 1972, female participation increased from 34.7 percent in 1951 to 43.9 percent in 1972. Wolfbein (1971, p. 18) quoted Bureau of Labor Statistics (1970) data which revealed that the worker rate of all married women (husband present) in March 1969 was 40 percent; the worker rate for wives was highest (49 percent) for those who had children of school age (6-17 years old). With a decreasing birth rate, an increasing percentage of married women in the work force, and increasing pressure for equal occupational opportunities for women, the pattern of female participation in the labor force becomes increasingly a topic demanding research.

The patterns described by Miller and Form are of particular interest as they may be helpful in explaining the career patterns of occupational educators. As has been explained previously (under the heading "Occupational Education: Diverse Programs and Diverse Labor Markets"), many occupational educators are required to have work experience in their area of specialization prior to entering the field of occupational education. For these individuals, entering the education field is a change in occupation which may be a "trial" period or the beginning of a "stable" period. Inversely, occupational educators who have followed a pattern of formal education immediately after high school with the intention of entering occupational education, are following a "stable career pattern" providing they do in fact, enter occupational education and stay in it. An important question raised by Miller and Form's research is: do the career patterns of occupational educators prior to their entering that occupation provide any clues as to their occupational stability in the future, or are there identifiable factors that cause persons to follow certain career patterns which also effect occupational stability? This question is pursued further in the latter part of this chapter when specific factors are considered.

Mobility of Occupational Educators

The concept of mobility in the labor market has been the focus of considerable research in the last 35 years (e.g., Carr-Saunders, 1955; Centers, 1948; Curtis, 1960; Davidson and Anderson, 1937; Jackson and Crockett, 1964; Jaffe and Carleton, 1954; Lipset and Bendix, 1959; Palmer, 1954; Perrucci, 1961; Reiss, 1955; Stern and Johnson, 1968). However, relatively little research on the mobility of educators has been conducted, and in that which was found, the subject of mobility was often peripheral and was reported in a descriptive manner.

Before discussing those specific factors which researchers have identified as being important variables contributing to the mobility of occupational educators, several of the studies which consider mobility of educators are introduced. These studies will also be mentioned from time to time along with other studies in the third section of this chapter as they contribute to the identification of relevant variables. Thorndike and Hagan (1955) studied the work careers of 10,000 male World War II veterans. They found that 459 veterans were currently involved in education while 200 veterans had been educators but had left that occupation. One significant conclusion was that

> . . . it appears that those who were academically more capable and talented tended to drop out of teaching and that those who remained as classroom teachers in the elementary and secondary schools were the less intellectually able members of the original group [p. 10].

Occupational educators were not isolated in Thorndike and Hagan's study so one does not know if the characteristics of that group were similar to those of the whole group of educators. The main reason given for leaving education was pay. Involuntary mobility seemed to be relatively unimportant in comparison with voluntary mobility. It is possible that those with the higher aptitudes were able to move more freely in the labor market, or had more self-confidence which allowed them to leave a job in search of a better one, or that certain personal characteristics possessed by those with somewhat lower aptitudes contributed to this group's relative satisfaction or compatibility with education.

Brown's study (1967) of college and university professors utilized seven cause and/or effect factors to study the relative scarcity of personnel in 23 disciplines. Nearly 74 percent of the 10,312 mobile professors in the sample responded to the mailed questionnaires regarding conditions during the 1962-63 school year. Of particular interest to this study are the following findings.

1. When asked, "What is your predecessor doing this year?" the respondents' answers provided this picture: 43 percent of the positions were newly created, so there was no predecessor; 23 percent of the positions were vacated by professors changing colleges; 2.8 percent of the vacancies resulted from professors moving into business or government positions (p. 28). (The reasons for the remaining vacancies were of less interest to this study and have not been reported here.)
2. The respondents, when asked what their activity had been the previous year, gave the following report: 32 percent had been teachers in higher education; 39.6 percent had been students; 9.7 percent had been primary or secondary education teachers; 10.2 percent had been in business, government, or foundation work (p. 33). Brown stated,

   > The supply of professors available to American higher education is not, even in a given year, fixed and rigid. In a limited sense, demand brings forth supply. One-third of all newly hired faculty (over 10,000 individuals) would not be teaching in higher education if an active recruiter had not interested them with a specific offer [p. 47].

3. About 53 percent of the respondents indicated that they expected to stay less than four years in their present job. Only 17 percent considered their new job as permanent (p. 35).
4. In inquiring about geographic mobility, Brown (p. 88) found that the median length of move by the professors in the study was approximately 500 miles: more than one-fourth moved over 1000 miles. Brown concluded that the college teacher labor market is nationwide.

In one important respect, the labor markets of college teachers and occupational educators are alike: in both cases, entry into the labor market does not require a teaching certificate based on a baccalaureate program. Consequently, the statement by Brown concerning the flexibility of the American higher education labor market could, perhaps, be paraphrased for occupational educators, suggesting that the labor market for occupational educators is very flexible and, to a greater or lesser degree, dependent on the recruiting done.

In another important respect, the labor markets of these two groups are very dissimilar. As is shown in the next two references, the labor markets of occupational educators are much more local than those for college teachers.

In 1969 Gibbs completed a study of all full-time teachers and administrators in Wisconsin's post-high school Vocational, Technical, and Adult Education (V.T.A.E.) system. About 70 percent of the 1553 qualifying vocational educators responded. Three years later, Thompson (1972) conducted a study of the labor market of junior-college occupational instructors in Illinois. Sixty-five percent of the 424 instructors in Thompson's sample provided usable responses. Since these studies were somewhat similar in method, sample, and information gathered, they will be compared where possible.

1. Geographic mobility. The percentage of respondents in the two studies who were recruited from the respective states was 83 percent (Wisconsin) and 82 percent (Illinois). The percentage of respondents who were recruited from within 50 miles was 60 percent (Wisconsin) and about 67 percent (Illinois). While these figures are remarkably similar, some large differences among teachers in different instructional areas were reported: a high percentage of Wisconsin health and welfare educators were recruited from near

their respective schools while in Illinois, the health occupations educators along with the personal and public service group tended to come the greatest distance to their current jobs.

2. Interschool mobility. Gibbs found that about 37 percent of the Wisconsin respondents had been employed in the educational field just prior to their current jobs. Ten percent more (46.7) of the Illinois group had held educational employment immediately prior to their current positions. The median time spent in the current job was 3.7 years for the Illinois respondents.
3. Occupational mobility. Both studies indicated that about a third of the respondents had held employment in business or industry just prior to taking their current employment.

The Illinois study also revealed several other statistics of interest here. Upon leaving high school, only 19 percent of the respondents definitely intended to enter teaching. Secondly, Thompson found that the three most common "main" reasons given for taking the current job were in order: (1) challenging job, (2) increase in salary, and (3) more individual freedom. The "main" reasons given for leaving the last occupation were in order (1) [little] opportunity for advancement, (2) salary too low, (3) low level of job creativity.

Neither of the two studies sought information about the intentions of the respondents concerning their future in occupational education. Nor did the researchers attempt to identify the more mobile or less mobile educators. The financial restrictions of Thompson's study resulted in a sample size that had cells with as few as 11 subjects. However, the general agreement of the two studies was remarkable when considering the respondents in each study as a whole. The profile of the post-secondary occupational educator suggested by these studies is a college educated person in the upper thirties who had not intended to enter education when graduating from high school, and who now teaches in his "home state" recruited from within 50 miles of his or her present job.

Factors Affecting Mobility

In this final section, factors which have been identified by other researchers as being related (some are causal, others are effects) to mobility in the labor market are discussed. Since little research in occupational education has been found that has had the purpose of identifying such factors, this section will rely heavily on mobility research wherever it has been done. No attempt has been made to be exhaustive in the review: studies in specific markets are too numerous to include them all.

This section is organized into three parts: in the first, demographic variables are considered; in the second, job-related variables are the focus; and in the third and final part, factors which may be related to the mobility of occupational educators specifically are discussed.

Demographic Factors

Education. The relationship between education and occupational status has been well established (Blau and Duncan, 1967, pp. 402-403), but the relationship between education and occupational mobility is not as clear since education is usually considered incidentally as it qualifies individuals for certain occupations. Education is interrelated with a number of other factors, e.g., a high level of schooling is required for professionals, and professionals tend to be more geographically mobile than are people in the other major categories, except for farm laborers (Miller and Form, 1964, p. 66).

Table 2.1 shows the relationship between education level, occupational group and one measure of job mobility--percentage of workers in the United States having worked at two or more jobs in 1955. The statistics indicate that, in 1955, with three exceptions, the higher the educational attainment, the less the job mobility. This general tendency was paralleled in the Oakland study (Lipset and Bendix, 1959, p. 153) in which the average number of jobs per respondent's work history was determined by occupational group. One explanation is that (1) persons who can best afford education tend to get the best vocational guidance both in school and at home, and (2) persons who have invested considerable time and money in getting their education have a stronger feeling of commitment to their occupation (Sharp, 1970, pp. 69-73; Taylor, 1968, Chapter 8). While the second point would be a factor in reducing occupational mobility, it would not prevent job mobility, a process used by many to move vertically.

Age. Miller and Form (1964) in referring to their own research and that of others, stated, "The trial work period [approximately the age period from 20 to 34 years] can now be described as _a period of proportionately high occupational movement and residential mobility but with limited vertical mobility_ [p. 573]." This statement is supported by Palmer's Six Cities study (1954, p. 53) and Brown's study of the mobile professors (1967, p. 38). Brown calculated the probability of moving for different cohorts of college faculty as shown in Table 2.2. A more complete analysis has been used by some researchers (Parnes, 1960) which suggests that "age may exert an independent effect on voluntary separations only in the case of workers with less than ten years of service [p. 21]." He found that male workers who had held one job for more than ten years had a propensity to stay in that job regardless of their age category. Conversely, younger men who had held a job for less than ten years had a higher propensity to move than older men with less than ten years in their jobs.

TABLE 2.1

RELATIONSHIP OF EDUCATIONAL LEVEL TO OCCUPATIONAL GROUP AND JOB MOBILITY

Occupational Group	Median Years of education[1]		More than one job - 1955[2]
	1972	1957	
Professional, technical, and kindred workers	16.3	16+	13.4%
Managers and administrators	12.9	12.4	9.2
Sales and clerical workers	12.6	12.4	≃ 12.7
Craftsmen and kindred workers	12.2	10.5	16.1
Operatives and kindred workers	11.6	9.5	16.1
Service workers	12.0	9.0	≃ 13.4
Nonfarm laborers	11.2	8.5	26.2
Farmers and farm laborers	9.4	8.5	18.6

[1] Median years of school completed by employed labor source, persons 18 years and over. Adapted from U.S. Department of Labor, 1973, p. 180.

[2] Percentage of workers in the United States having worked at two or more jobs in 1955. Adapted from Bureau of Census, "Labor Force," Current Population Reports, Series P-50, No. 70, Tables 2 and 3, pp. 15-16.

Hiestand (1971) saw graduate study for "middle-aged" persons (after 35 years of age) as an indication of occupational change. In 1966, he found that 16.5 percent, 20.4 percent, and 8.7 percent of the graduate students in New York

University, Columbia University (with Teachers College), and the University of Chicago, respectively, were over 35 years of age. These figures were, as a whole, higher than that found by Davis (1962, p. 170) in an earlier national study: 9.5 percent. Hiestand is of the opinion that recent changes in technology and in the professions have exerted pressure on many persons to return to graduate school after age 35. He also noted that the tendency toward earlier marriage and smaller families results in the freedom for many individuals to return to graduate school at that age. When 70 graduates over 35 were surveyed to determine the type of occupational mobility they sought through their return to graduate school, Hiestand (p. 49) found the responses distributed as follows:

Upward within the profession	29%
Shift between closely related fields	26%
Major change in occupation	24%
Entering a profession	21% (mostly women)

TABLE 2.2

AGE AND MOBILITY OF COLLEGE FACULTY[1]

Age	Probability of Moving
Under 30	.195
30 to 39	.061
40 to 49	.031
50 to 59	.024
60 and over	.012

[1] Adapted from Brown, 1967, p. 38.

These figures suggest that considerable occupational mobility is sought by this group. Another finding by Hiestand (p. 84) that is of interest in the present study is that the decision to return to graduate school was made in a very short period of time by many of the subjects. This suggests that the stated expectations of individuals regarding their occupations may not be a reliable source of information for some people.

Sex. The movement of women in the labor force has been the subject of few studies. However, the increasing participation of women in the labor market (discussed in the section entitled "Career Patterns and Components") has begun to stimulate interest in this topic. A five-year study of the educational and labor market experience of a national sampling of young women begun in 1968 by Shea, Roderick, Zeller, and Kohen (1971), is expected to yield valuable information on career decision-making and occupational mobility of young women. While some of the recent studies (e.g., Ginzberg, 1966, and U.S. Department of Labor, 1966) have focused on segments of the female labor force, the study by Shea and others represents a cross section of young American women.

The cohort of women with academic honors who pursued graduate studies at Columbia University during the period 1945-1951 exhibited four career patterns (Ginzberg, 1966, pp. 89-92). Although the group was selected from those who are highly talented intellectually and the distribution of the sample among the four career patterns would be different from that found in a cross section of society, the career patterns, per se, may be appropriate descriptors for most female groups in the labor force. The four career patterns and a fifth category identified were:

1. Straight career pattern: a pattern marked by "consistency, continuity, and progression within the same field [p. 89]."

2. Broad career pattern: a career pattern, most often experienced by subjects in this study (33 percent), in which the woman remains in the area of preparation but shifts fields or function, e.g., a nurse who becomes a nurse educator.
3. Changed career pattern: in this pattern the subject changes fields from that for which she prepared.
4. Variant career pattern: the subjects with this pattern "convey the impression of floundering [p. 91]," as they change jobs somewhat aimlessly.
5. A fifth category which described the work patterns of some women in Ginzberg's study is best described as "no pattern" in that their work history was too short to identify a pattern.

In occupational education, many individuals, male and female alike, would have experienced a broad career pattern since they have shifted from one occupation to another in which they educate students to enter their own (the educators') prior occupation.

Several studies have compared job mobility of men with that of women. The findings have not been conclusive. Palmer (1954, pp. 74-75) found that industrial women were as likely as men to change industries, but were less likely than men to change occupations when they changed employers. The data collected in the study led Palmer (p. 54) to conclude that there was no significant difference between the amount of job mobility by men and women with continuous participation in the labor force. Katzell, et al., (1971, pp. 68-69) reviewed six studies of social worker mobility and found that female workers had a lower turnover rate than men in all six studies. In reference to geographic mobility, Gibbs (1969, p. 76) noted that Wisconsin post-secondary vocational teachers of both sexes were equally likely to have come from in-state or out-of-state.

Teaching, particularly at the elementary and secondary school levels, has been a sex-linked occupation. It has been one of few professional occupations in which there is a high demand for women (Ferriss, 1971, pp. 114-115). Hence, women in large numbers prepare for, enter, and stay in teaching. A national follow-up study of women college graduates seven years after graduation found that, among the 49 percent who were employed, the three main occupational fields represented were teaching - 59 percent, other professional workers - 8 percent, and nurses - 6 percent (U.S. Department of Labor, 1966, p. 13). Over half of the working women in Ginzberg's (1966, pp. 73-74, 76) sample of selected graduate women were in teaching at the time of the survey. Thirty-six percent of these women had worked continuously since graduate school, a fact which, coupled with the high rate working for pay at the time of the survey (75 percent), suggests that women who attend graduate school have a stronger career orientation than do women in society at large.

The single largest interference in the career of women is having children. Ginzberg summarized his data thus: "The radical drop in continuous employment comes with one child and continues to drop with every additional child [1966, p. 82]." In a study of college women seven years after graduation (U.S. Department of Labor, 1966, p. 52), 73 percent of those not working listed birth and care of children as their major reason for leaving the work force. About half of the 51 percent not working in the Labor Department's study intended to return to work in the future (1966, p. 53).

The picture projected by the sex-linked or sex-specific occupational structure of our society (Oppenheimer, 1970, pp. 65ff) helps one understand the relationship between women and the educational profession. Ferriss (1971) concluded his chapter on "Indicators of Women at Work" with the following remarks:

> They [women] are not increasing proportionately in the more remunerative professional and technical occupations . . . . However, the status level of women's jobs, a rough measure of the desirability of the employment, has always been higher than the status of men's jobs and it continues to rise. Nearly sixty percent of all women employees are white-collar workers . . . , while the percents of all women employees in service . . . , blue-collar . . . , and farm worker . . . occupations continue to decline.
>
> While the segregation of women in typically female-linked occupations continues, segregation today is but little more than it was some twenty years ago . . . , indeed, even seventy years ago. Type-of-work differences between men and women, thus, appear to be persistent [pp. 118-119].

The pay differential between nonunion men and women in the professions is shown for the year 1970 in Table 2.3. As has been noted above, the professions category includes low-paying occupations such as nurses as well as the more lucrative occupations in law and medicine. Thus, as Ferriss described the situation, women tend to suffer from occupational segregation which places them in the lower paying professional categories. But even within the _same_ job, men tend to get more pay than women according to a study of ten occupations in 85 metropolitan centers done by Buckley (1971). He found that men had 18 percent higher wages across all establishments in the study with the differential being 11 percent higher for men in plants employing both men and women, and 22 percent higher for men in plants employing only men as compared to plants employing only women.

The degree to which the movement toward female awareness and the subsequent drive for equal employment opportunities will effect the nature of the female labor force in the future is not clear. Stereotyping usually dies slowly, and it is conjectured that the bulk of American women will continue to prepare for the "traditional" female occupations for some time to come, just as most men will continue to "see" women as nurses, teachers, secretaries, and waitresses. Obviously, some change will be wrought by quota systems but any sweeping change will take time.

TABLE 2.3

EARNINGS DISTRIBUTION OF YEAR-ROUND, FULL-TIME PROFESSIONAL WORKERS BY SEX AND RACE: NONUNION MEMBERS - 1970[1]

Group	Percent with earnings			Median Earnings
	Under $5,000	Over $10,000	Over $15,000	
Male - white	12.4	47.5	20.1	$9,709
- nonwhite	27.7	20.6	7.4	7,039
Female - white	33.5	11.7	1.5	6,258
- nonwhite	50.2	9.1	.7	4,987

[1] Adapted from U.S. Department of Labor, 1972b, Table 7. Fewer than 20 percent of all professional groups in this table were union members. The number of union members in one group was too small to be reported in the source; hence, all union data are excluded here. Source data did indicate that female professionals appeared to gain most (wages) from union membership, but since occupation was not held constant, the union-nonunion difference may have reflected major differences among occupations.

If prestige and salary continue to play an important role in choosing occupations and changing occupations, women may be expected to choose and stay in occupational education where such a move is seen as an improvement in prestige or salary or both. From the references already quoted, entry into equally prestigious or lucrative occupations has been much more limited for women than for men. For example, women tend to have particular difficulty entering business and journalism at a level comparable to that for men. In the follow-up study of outstanding women graduate students at Columbia University, Ginzberg (1966, p. 79) found that of the women who had majored in business or journalism in graduate school, only 28 percent had stayed in that field, the lowest percentage of any group represented in the study. While the reasons for the low percentage were not determined, the reasons may well be a result of the sex-linked occupational phenomenon in our society. Men more than women have had access to a great variety of occupations with status and monetary returns equal to and above those for occupational educators. Hence, it is postulated that women will tend to stay in occupational education at a higher rate than men.

A final point of discussion is raised here in reference to the finding by Hiestand (1971, p. 49) which revealed that of the 15 people over age 35 who had entered graduate school for the purpose of preparing to enter a profession, 11 were women. With such a small sampling, generalizations cannot be drawn, but the question demands further research: is there a trend of women entering professions after age 35, and, if so, how will this effect occupational education?

Marital and family status. Miller and Form (1964) summarized the influence of marriage and children at home thus: " . . . the effect is to cause the worker to remain on the job and to diminish the possibility of moving either from his job or from his community [p. 599]." Home ownership has a similar effect. In general, the more vested interests a man has in a community and in his home, the more reluctant he will be to quit his job and move.

The disruptive effect of having children on the woman's career has already been noted in the section discussing occupational mobility in reference to sex. Katzell, et al., (1971, p. 70) quoted several studies about social workers which made these points: (1) men over 25 and women regardless of age exhibited similar turnover rates; and (2) married women and single men were more likely to resign than single women and married men.

Region of the country. When considering labor market mobility in the different regions of the country, usually the first element considered is earnings on the assumption that they attract or repel workers. Table 2.4 illustrates differences in median earnings by region of the country. The conventional supply and demand model assumes that where other things are equal, and the demand for workers is great relative to the supply, wages will be increased in order to attract labor; or, if feasible, the business or agency may bring its work to the site of cheap labor. The picture that this table portrays for the South is an economy in which the people in high-status occupational positions receive salaries that are not appreciably lower (except for blacks) than are the salaries for their counterparts in other regions, but that a large contingent of people in occupations other than white collar are grossly underpaid. In regard to geographic migration and its possible effects on social mobility, Blau and Duncan (1967) concluded,

> The white profits by remaining in the South, where he need not compete with the superior background, education, and experience of Northerners, and where stronger discrimination in employment against Negroes favors him. The southern Negro, on the other hand, profits by moving north, accepting the handicap of inferior education in exchange for escaping from the more rigorous racial discrimination in the South [p. 219].

What the effect of this situation is on the job and occupational mobility of occupational educators is not clear. It may suggest that the probability of white educators migrating from south to north is lower than for blacks, but that wage differentials for white collar work are not likely to be a major factor in inter-regional mobility.

Community size. In general, the more rapidly a community is expanding, the more active are the labor markets in it and the greater is the consequent mobility (Brown, 1967, p. 32; Palmer, 1954, p. 22). Thomas (1959) found that

TABLE 2.4

ANNUAL EARNINGS BY REGION OF THE COUNTRY

Group	Northeast		North Central		South		West	
Year-round, full-time white collar workers-1970 (median salary)[1]								
	Union workers	Nonunion workers	Union workers	Nonunion workers	Union workers	Nonunion workers	Union workers	Nonunion workers
Male	$9,645	$11,881	$9,715	$11,626	$9,892	$10,178	$10,350	$11,926
Female	6,888	6,337	6,707	5,919	6,547	5,565	6,882	6,454
All wage and salary workers-1970 (median salary)[2]								
Male	8,385	7,353	8,574	7,289	8,053	5,839	8,852	7,078
Female	4,442	3,160	4,772	2,646	4,483	2,601	4,761	2,702
College teachers 1962-1963 (mean salary)[3]								
Beginning Ph.D.	$7700		$8200		$8100		$7900	
Veteran Ph.D. (just moved)	9900		9600		9200		9400	

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[1] Adapted from U.S. Department of Labor, 1972b, p. 22.

[2] Ibid.

[3] Adapted from Brown, 1967, p. 90. The regions were named differently: North Atlantic, Great Lakes and Plains, Southeast, and Far West and Southwest, respectively.

welfare workers in rural areas changed jobs less often than their urban counterparts. This was attributed in part to fewer occupational alternatives and fewer jobs within the social service field from which to choose.

Another aspect of community size which has been the subject of considerable research has been the intergenerational social mobility, i.e., the effect of being raised in a given size or type of community. Lipset and Bendix (1959) in discussing research related to upward (social) mobility, stated,

> The larger the community in which the son of a worker grew up, the better his chances for upward mobility, a relationship that does not hold for the sons of nonmanual fathers.
>
> The positive effect of being reared in a large city on occupational opportunities is found among those with less than a high school education. Among those who have a high school education or better, size of community of orientation is not positively related to greater opportunity [p. 213].

Ginzberg (1966, p. 11) found that most of the select graduate women in his study had been born and raised in a leading metropolitan center. Only one in four had grown up in a small community or farm. This result may have been greatly influenced by the fact that the sample was drawn from Columbia University. Without a broader-based study, the relationship between size of home community and career is not clear.

Race. While little research could be found that bore directly on job mobility and race, considerable study and discussion has developed concerning the social mobility of different ethnic and racial groups. An attempt is made here to develop a hypothesis related to employment mobility of black occupational educators in particular.

That Negroes receive less return in the form of occupational prestige and wages for their educational investments is well documented (Blau and

Duncan, 1967, Chapter 6; Blum and Coleman, 1970). Table 2.3 in a previous section exhibits the earning distribution of full-time professional workers by sex and race. As explained in the section discussing sex differences in the labor force, some of the wage differences reflect the fact that blacks are overly represented in the low paying professional categories and under represented in the lucrative professional occupations. An analysis by Blum and Coleman (1970, p. 22) showed that the incomes of black above-average, male wage earners increase by a rate of 2 percent a year compared to a rate of 4 percent a year for nonblacks.

The preceding paragraph emphasized the fact that blacks do not benefit as much from education as do whites. Yet, education has paid dividends in wages and prestige, albeit, smaller dividends for blacks than for nonblacks. Table 2.5 shows the increase in educational attainment of blacks over the last 15 years as well as the proportional increase in the number of blacks in the white collar and professional occupations. The increase in educational attainment during this time period and the increase in the proportion of Negroes and other races in professional and other white collar occupations has been phenomenal.

In setting forth guidelines for research into mobility in the Negro community, Ginzberg and Hiestand (1968) suggested that by certain indices, the Negro has lost ground in the area of occupations, earnings, and education. However, other indices indicate the opposite. Needless to say, any upward changes by blacks are relative, not absolute, and need to be considered as such. Recent use of the quota system or similar arrangement by some businesses and agencies will have an equalizing effect on the employment of minority groups although covert discrimination is not easily routed.

It is precisely the middle class black who has "made it" who believes most strongly in the value of education as suggested by the proportion of children

TABLE 2.5

YEARS OF SCHOOL COMPLETED BY THE CIVILIAN LABOR FORCE AND PERCENTAGE EMPLOYED IN SELECTED OCCUPATION GROUPS BY COLOR, SELECTED DATES, 1957-1972[1]

Year	Median school years completed		Percent with some college		Percent white collar workers			
					Total		Prof. - Tech.[2]	
	White	Negro[3]	White	Negro	White	Negro	White	Negro
1957, 1958[4]	12.1	8.7	18.7	7.3	45.8[5]	13.8	11.8	4.1
1965	12.3	10.5	23.2	13.1	47.9	19.5	13.2	6.9
1972	12.5	12.0	29.4	17.8	50.0	29.8	14.6	9.5

[1] Adapted from U.S. Department of Labor, 1973, Tables A-12 and B-9.

[2] Professional and Technical

[3] "Other races" are included with the Negro classification in this table.

[4] Some data in this row were collected in 1957 while the rest was collected in 1958.

[5] The percentage of whites who were white collar workers. The "Negro" column is read in the same manner.

of white-collar black fathers enrolled in school, Table 2.6. The apparent parental pressure on middle-class black children to stay in school suggests that the parents value the status of their position and want the same for their children. Since fewer blacks than whites are employed in white-collar occupations, the assumption may be made that the white-collar black enjoys more relative status within his racial group than does a white in a comparable occupation. If this assumption is correct, one may postulate that most black, occupational educators would guard their position to retain both the prestige it gives them as well as, in many cases, a salary which may be more than they could get elsewhere. This leads to a hypothesis that black, occupational educators will show less occupational mobility than whites once they enter occupational education. No prediction is made concerning the job mobility of black, occupational educators within occupational education since it seems that their job mobility behavior would not be dissimilar to that for whites.

TABLE 2.6

PERCENT OF WHITES AND BLACKS ENROLLED IN SCHOOL, 1968[1]

Occupation of father when youth was 14 years old	Age Groups			
	Whites		Blacks	
	18-19	20-24	18-19	20-24
White-collar	73	43	92	44
Blue-collar	49	20	34	13
Farm	35	13	28	2
TOTAL	56	27	38	13

[1] Wolfbein, 1971, p. 72.

Statistics about white ethnic minorities, in contrast to those of blacks, indicate that these minorities "fare as well as if not better than the dominant majority [Blau and Duncan, 1967, p. 240]." While some discrimination is apparent against certain immigrants, Blau and Duncan (1967, p. 240) stated that findings indicate that sons of immigrants are more successful in their careers than are the sons of the native-born majority who have remained near their homes, but are not as successful as native sons who have left their region of birth.

Socioeconomic status. Differences in social status or prestige are apparent in all societies to a greater or lesser degree. Status-fixing attributes such as ancestry, religious office and political affiliation have been replaced in America by occupational identification (Caplow, 1954, p. 30). This replacement has resulted in a shift in status-fixing elements from those in which wealth was often incidental to a status system in which economic advantage and occupation are central. Blau and Duncan (1967) supported this view in the following statement:

> Important as these prestige strata studied by Warner may be in the social life of a community, however, economic rather than prestige criteria are undoubtedly the crucial ones in the stratification system of the entire society, particularly the industrial society.
>
> . . . Occupational position does not encompass all aspects of the concept of class, but it is probably the best single indicator of it (although more refined measures should take economic influence directly into account) [p. 6].

The relationship between wages, education, and occupation was described more succinctly by Reiss, et al., (1961)

> Both individual income and educational attainment, which are used as measures of socio-economic status, are known to be correlated with occupational ranks; and both can be seen as aspects of occupational status, since education is a basis for entry into many occupations, and for most people income is derived from occupation [p. 30].

It has been this identification of social status with occupation that has led to the more descriptive term "socioeconomic status." However, in order to do analysis involving social status, a construct must be defined, a classification system developed, and validation on the basis of some external or internal criterion completed.[1] This process has led researchers in different directions. Hence, several indices are being used and the researcher should choose the technique or instrument that best suit his definition and/or purposes.

The social stratification indices which are currently in use are based on one or more of three emphases: (1) objective status; (2) accorded status, or the prestige accorded to individuals or groups by others; (3) subjective or self-placement status, i.e., the personal sense of location within the social hierarchy (Lipset, 1968, p. 310).

Possible criteria for determining objective social status are (1) power position within the economic structure, (2) the extent of economic life chances, (3) occupation, (4) educational attainment, (5) type of living quarters, (6) source of income, (7) physical environment of the home. Several specific instruments or techniques have been developed using objective criteria: the Edwards Scale (1943), Hollingshead's Two Factor Index of Social Position (1957), the Index of Status Characteristics (Warner, Meeker, and Eells, 1949), and the Duncan Socioeconomic Status Index (Reiss, et al., 1961, Chapter 6).

The simplest and quickest classification system devised bases socioeconomic status on the occupation of the individual. The scale was developed in 1943 by Alba Edwards for the U.S. Census Bureau. Edwards (1943) rationalized that each occupational group in the order represented a "somewhat distinct standard of life, economically, and, to a considerable extent, intellectually and socially [p. 179]."

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[1] Part 1 of the book edited by Roach, Gross, and Gursslin, 1969, does an excellent job of presenting the rationale for social stratification and the problems in developing stratification techniques.

Caplow (1954, pp. 43-49) has questioned some of the assumptions on which such a stratification system is based: (1) white collar work is superior to manual work; (2) self-employment is superior to employment by others; (3) clean occupations are superior to dirty occupations; (4) the importance of a business depends on its size although this is not true of agricultural occupations; (5) personal service is degrading; it is better to be employed by an enterprise than to be employed in the same work by a person. In spite of its limitations, the Edwards Scale is useful as a gross form of measurement.

The Two Factor Index of Social Position developed by Hollingshead (1957) combined educational attainment and occupational category in a weighted equation, the sum of which is used to categorize the individual into one of five social classes suggested by prior research. While this index is an improvement over the Edwards Scale, the initial ranking of occupations suffers from the same questionable assumptions as does the Edwards Scale.

The Index of Status Characteristics (Warner, et al., 1949, Chapters 8 and 9) utilizes four variables in a weighted equation: type of occupation, dwelling area, house type, and source of income. Educational attainment, per se, does not enter into the equation. The data for this index are more time consuming to collect than are the data for the other described scales of this type.

The Duncan socioeconomic index (Reiss, et al., 1961) combines measures of education and income to describe occupational status. This technique is used as a multidimensional technique to place occupations on a scale. The identification of a subject's occupation is used to provide an immediate reading of the socioeconomic status (SES) predetermined for that occupation. Since the SES is taken from the occupation description, the Duncan SES can be transformed directly to NORC (an accorded status scale described in the next two paragraphs) and Edwards scales. The Duncan socioeconomic index score cannot be taken as an exact representation of the stratification system of the society. And, as in most objective type classifications, community variations in the relative socioeconomic positions of different occupations are bound to exist. Changes in educational attainment and wages in the various occupations over time require that the Duncan index be brought up-to-date periodically.

The dimension of accorded status locates an individual or group in the status system on the basis of the opinion of the individuals who make up the system rather than the opinion of the sociologist who observes it. Lipset (1968) stated that, " . . . a social class based on accorded status is composed of individuals who accept each other as equals and therefore as qualified for intimate association in friendship, marriage, and the like [p. 311]." The Sims Social Class Identification (SCI) Occupational Rating Scale (1952), although subjective in implementation, utilizes 42 occupations, the status of which a subject compares to his own. The status of these 42 occupations were predetermined through an accorded status technique.

The accorded status technique was also used in the development of the NORC (National Opinion Research Center) Scale by North and Hatt (Reissman, 1959) in 1946-47 which utilized the rankings of 90 occupations by nearly 3,000 adults. Although the NORC Scale has been expanded and refined, the technique used to formulate the scale can be criticized on three counts: unequal amounts of knowledge about occupations held by the raters; the different criteria used by the raters in forming their evaluations; and the tendency of many raters to rate their own occupation higher than it is rated by people in other occupations.

Reiss and his associates (1961, p. 84) correlated the NORC scores with the median income and educational levels of the civilian labor force of the occupations in the NORC study. They found rank order correlation coefficients of +.85 between the NORC score and income, and +.83 between educational attainment and the NORC score. Their conclusion was that prestige is rather strongly related to other indices of socioeconomic status.

The subjective or self-placement status technique relies on either self-identification or on reference group theory. Centers (1949) used a direct question, asking the subject to identify the class to which he belonged. A less direct approach is utilized by the Sims SCI. As described in the previous section, the subject rates the status of 42 occupations in relation to his own. Through this indirect method he "unconsciously" or not so unconsciously reveals the social class with which he identifies. It is possible for a subject to place himself into a social class which, in reality, would be inconsistent with his accorded status or his status as determined by an objective technique. In essence, the self-placement technique relies on the psychological phenomenon of class identification as opposed to the sociological phenomenon of class stratification demonstrated by the objective techniques.

The Duncan scale for socioeconomic status was selected for use in this study. Its choice was based on the following criteria:

1. The index must be reliable and a valid measure of socioeconomic status. Hall (1969) wrote of the Duncan index, "the scale is a distinct advance in the description and measurement of occupational status [p. 295]." Robinson, Athanasiou, and Head (1969) stated, "We find the standard Duncan Socio-Economic Status Scale to be superior for most survey and large sample situations [p. 335]."

2. The device must not rely on data that are difficult for the respondent to remember or time-consuming to answer as it had to be a small part of a large questionnaire. The Duncan index requires only a description of the father's occupation.
3. An index was desired which would be reliable over time. Hodge Siegel, and Rossi (1964) have found a correlation of .99 between the occupation prestige scores of the 1947 North-Hatt NORC study and a 1963 replicative study.
4. An index was desired which could be quickly and accurately coded. The Duncan scale is relatively fast to code for someone familiar with the Bureau of Census occupational classification system.

Studies have shown that the socioeconomic status of the father is positively related to (1) the educational aspirations and attainment of his children; (2) the occupational aspirations of his children; (3) the first job of his children; and (4) inversely related to the number of children in the family (Blau and Duncan, 1968, Chapter 9; Chamberlain, 1965, p. 24; Hall, 1969, pp. 44-45; Lipset and Bendix, 1959, Chapter III and VII; Wolfbein, 1971, pp. 72-79). But the statistics also indicate a large standard deviation especially in occupational categories such as farming where out-mobility is forced.

The effect of socioeconomic status on the mobility of educators is difficult to predict. Sharp (1970) conducted a follow-up study in 1963 of 25,000 students who had received baccalaureate degrees in 1958, and 5,000 graduate students who had received Masters degrees in 1958. A conclusion of the study was that "teachers aspire to climb within the system--from elementary school to high school, from high school to junior college, and on to a four-year college or university [p. 47]." Several questions are raised by this finding in regard to occupational educators.

1. Do occupational educators come from a different socioeconomic population than do the college graduate group? Or is the socioeconomic background of some occupational educator specialty groups quite different from that of others? The study of community college occupational teachers in Illinois (Thompson, 1972) included data on the father's occupations. Regrouping the data among white collar, blue collar, and farm resulted in Table 2.7. Several observations can be made from the table. In two of the three curriculum areas in which there were both males and females, the females tended to come from a higher socioeconomic status than did the men. Only in business, marketing, and management did the men come from a higher socioeconomic level than did the women. Traditionally, the women in this area have taught the office practice courses while men have usually taught the marketing and management. Hence, the men and women in the business, marketing, and management area may well have quite different teaching roles. The difference between the father's occupations of male health occupational instructors and female health occupational instructors may say more about the structure of society than about the effects of fathers' occupations. Women have found the health area to be one of the few socially approved paths for them to follow to achieve a higher status, better paying position (compared to the usual pay for unskilled work). Capable males, on the other hand, have many more white-collar options open to them. The same comment may well apply to teaching as a whole, i.e., teaching is one of few socially acceptable, non-manual occupations for women that pays an "average" wage.
2. If differences are found in the socioeconomic backgrounds of occupational educators, how will this affect their job and occupational

TABLE 2.7

OCCUPATIONAL GROUP OF FATHER OF ILLINOIS

COMMUNITY COLLEGE OCCUPATIONAL INSTRUCTORS - 1972[1]

(Percent)

Occupational group	Appl. Biol. & Agricul.		Business, Mktg., Mgmt.		Industrial Oriented		Personal & Pub. Serv.		Health Occup.	
	M	F	M	F	M	F	M	F	M	F
White collar	11	-	53	48	35	-	41	61	18	55
Blue collar	26	-	36	31	52	-	41	25	55	24
Farm	61	-	9	21	10	-	15	14	18	17
Other, no response	2	-	2	-	2	-	4	-	9	4
TOTAL[2]	100	-	100	100	100	-	100	100	100	100
(N)	46	0	45	29	48	0	27	28	11	42

[1] Adapted from Thompson, 1972, pp. 58-59.

[2] Column may not total 100% due to rounding.

mobility? As already stated, the level of the first job is positively related to father's occupation. Does this mean that on the whole, the occupational educators who have come from a lower socioeconomic background will have had to make more occupational and job changes before entering occupational education than would those who came from a higher level of socioeconomic status? Once in occupational education, will there be a difference in job mobility, e.g., will those whose fathers had a higher status job have a tendency to strive more for upward mobility than those from lower status backgrounds? Put another way, will career aspirations vary between the two groups? Lastly, how will quit-rates among occupational educators be related to differences in socioeconomic background?

Past mobility. The study of 935 Oakland workers by Lipset and Bendix (1959) resulted in some interesting findings in regard to the interaction of different types of mobility. Of particular interest to the present study are these conclusions:

1. There was a high degree of association among geographic mobility, job mobility, and occupational mobility, i.e., someone who changed jobs more frequently was also likely to be more geographically mobile and more likely to change occupations more often (p. 160).
2. The Oakland men were more likely to change from one job to another than to shift occupations, but they were more likely to change occupations than to move to another community (pp. 159-160).

On the basis of studies of skilled craftsmen, Swerdloff (1952) concluded that most of whatever job mobility takes place is concentrated in a few individuals. For example, in a study of tool and die makers, 60 percent of the job changing was done by 14 percent of the workers. Robert McGinnis (National

Academy of Sciences, 1971, pp. 197-198) of Cornell has offered a theory coined "cumulative inertia" which suggests that the more one moves, the more likely he is to move in the future. Marshall (1964) came to the following conclusion after analyzing the mobility patterns of faculty in 349 colleges:

> The proportion of moves made within the first three years of a job is very high whether for a first job or a fifth. The figures suggest that the person who is immobile for any protracted period of time is likely to find it difficult to reenter the labor market [p. 51].

A study of the career patterns of craftsmen in California who became trade and industrial educators (Schill, 1963) revealed that while many of the industrial career patterns prior to entering the field of education were chaotic, the education career patterns were characterized by stable, upward movement. Schill suggested that these differences demonstrate two things: "a more secure occupational field in education and considerably less discontent on the part of individuals in the teaching setting [Schill, 1964]."

The picture of a chaotic industrial career followed by an orderly, stable career in education suggests an overall pattern which Miller and Form (1951, p. 712) called the "conventional career pattern." This pattern consisted basically of the five work periods; the highly mobile industrial sequence could well be the trial work period during which time the individual attempts to find the job and occupation of his liking.

Sharp (1970, p. 49) found in her longitudinal study of more than 30,000 baccalaureate and master's degree graduates that five years after the degree, those who had entered teaching were "strongly committed to their occupation." Nearly 80 percent of the baccalaureate group and 90 percent of the group who had received master's degrees in 1958 wanted to remain within the field of education, although not necessarily at their current level. This type of apparent career stability and commitment are indicative of the "stable career pattern" described by Miller and Form (1951, p. 712), a pattern in which the trial stage is difficult to discern, since it blends into the stable stage with no change in occupation, and often with no change in job.

If one can generalize at all from Schill's study, the generalization might be that the job mobility of trade and industrial educators before they become educators has little predictive value when considering their job mobility after they have become educators. A longitudinal study similar to Sharp's is needed to validate or reject such a generalization.

Community attachment. Community attachment and involvement take many forms from buying a house and joining voluntary associations to local political involvement and developing friendships. The generalization is usually made that the more involved and attached a worker is to the community, the more reluctant he will be to move his residence. This, however, does not preclude the worker's changing jobs and/or occupations unless to do so would require geographic mobility or would put social pressure on him to change his life style in ways he does not like. This suggests that job or occupational mobility without geographic mobility would be more likely to be possible in a metropolis than in a small community.

In a study of church membership and occupational mobility in the Detroit area, Curtis (1960) found little difference in church membership between occupationally mobile and occupationally stable individuals. However, he did find a statistically significant difference in church attendence: 42.6 percent of the occupationally stable men and 55.9 percent of the occupationally mobile men attended church once a week or more.

A national sampling of over 4,000 households in 1962-1963 was studied in regard to geographic mobility (Lansing and Mueller, 1967). Geographic mobility was defined in this study as a move across a labor market boundary (pp. 12-13). When the 723 subjects who had moved in the last five years were asked to give the reasons for their most recent move, 24 percent mentioned family-related reasons. By far the most frequently mentioned family reason for moving was "to be closer to other family members" (given by half of those who listed family reasons). Health considerations were second. Less than 10 percent listed each of the following: to be farther from other family members, death in the family, and divorce or separation (p. 126). Lansing and Mueller also found that those people living in a community away from their relatives were much more prone to express a preference to move and to actually move than those who lived near their relatives (pp. 129-131).

Twenty percent of the same movers gave community reasons for moving (pp. 135-144). About a third mentioned the general attractiveness of the community to which they had moved; another third returned to their home town and mentioned the specific attractiveness of that community to them. The findings also showed that although the number of organizations to which the head of the family belonged increases somewhat over time, there was "little relation between the consecutive number of years people have lived in an area and the number of organizations to which they belong [p. 143]." Friendships were found to be slower to develop than were organization contacts.

In regard to home ownership and mobility, the same study found the expected inverse relationship between home ownership and geographic mobility. Of those who had not moved within the last five years, 70 percent owned their own home; of those who had moved in the last five years, 68 percent did not own their own home before the move (p. 153). Even when age was held constant, the findings showed that preferences for moving and actual moves were inversely related to home ownership.

The study reported by Lansing and Mueller was a study of geographic mobility and did not examine job and occupational mobility apart from geographic mobility. Geographic mobility as defined in the study did require a change of employment. However, changes in occupation were not distinquished from job changes within an occupation. Nor were changes in employment studied that did not require a change in residence.

Job-Related Factors

Wages. Money, because it is usually considered the primary reason for one's being employed, is often seen as a major influence in job mobility. Theoretically, wages are heirarchical in the occupational structure so that movements upward are accompanied by higher salaries. In reality, numerous cases exist in which an upward shift in occupation is accompanied by a drop in wages and vice-versa. The salaries of teachers, linked as they are to local revenue and local control, have usually been lower than the salaries offered by the private enterprise sector of the economy to individuals with comparable educational background. While efforts were made to narrow the gap during the last decade when educators were in great demand, the gap persists as shown by the data in Table 2.8 collected by the National Education Association.

In spite of the strong commitment to education found by Sharp (1970, p. 49) among the large number of 1958 college graduates who were employed in educational institutions in 1963, discontent with salaries surfaced. For male teachers in elementary and high school levels, nearly 40 percent were dissatisfied with their salaries, a figure unmatched by graduates employed in other occupational categories (p. 50). Of those who received Master's degrees in 1958 and were teaching in 1963, "Nearly 30 percent of the men were dissatisfied with their income, the highest dissatisfaction percentage for any occupation in the M.A. group [p. 51]."

TABLE 2.8

AVERAGE ANNUAL STARTING SALARIES OF SELECTED GROUPS[1]

Group	1965-66	1968-69	1971-72
Men and women with Bachelor's degrees			
Beginning teachers[2]	$ 4,928	$ 5,941	$ 7,061
Men graduates with Bachelor's degrees			
Engineering (highest reporting category)	$ 7,548	$ 9,312	$10,500
Sales, Marketing	6,276	7,620	8,736
Liberal arts (lowest reporting category)	6,216	7,368	8,292
TOTAL, eleven fields (weighted average)	6,792	8,391	9,534
Women graduates with Bachelor's degrees			
Engineering-technical research	$ 7,260	$ 8,904	$10,608
Accounting	6,768	7,716	9,516
General business (lowest)	5,520	6,840	8,016

[1] Adapted from National Education Association Research Division, 1972b.

[2] In school systems enrolling 6,000 or more pupils.

The relationship between salaries and mobility in the labor sector at large is obscured somewhat by the fact that higher-paying jobs are often higher status jobs with additional benefits. However, even when differences in job content were taken into account, Stark (1970) found that in his survey of 419 various companies, starting salaries were positively correlated with staff retention during the first few years of employment. A study of 1,570 white male heads of households in the Detroit area led Curtis (1960) to conclude, "In 14 of the 20 various combinations of age and stratum the incomes of the stable occupational men are higher than those of their mobile counterparts." This finding was not supported by the data in Lansing and Mueller's (1967, pp. 83-84) national study in which unadjusted income means were positively correlated with mobility. When differences in occupation, education, and race were considered, the favorable income differential for the mobile subjects disappeared.

The occupational teachers in Thompson's (1972) Illinois community college survey were asked to list the major reason for taking their current job. While the reasons given were diverse, the second largest group of teachers (13.4 percent) gave the response, "increase in salary." When asked to give the major reason for leaving their previous jobs, about one-fifth listed low salary (pp. 139-142). Since the questions were asked differently, this information can not be compared directly to that of Sharp above. The 200 World War II veterans who had left teaching in the study by Thorndike and Hagan (1959, p. 12) listed low pay as the major reason for their changing occupations.

The research cited indicates that salary is a factor in job mobility. Furthermore, the research suggests that salary may be a greater source of dissatisfaction in some occupations, e.g., teaching, than in others. Based on a review of a number of mobility studies, Parnes (1960) offered several generalizations on the subject, two of which are especially appropriate here:

> . . . there is some evidence that the wage factor may be more important in explaining voluntary job separations during periods of high employment than during periods when the labor market is looser.
>
> . . . it appears that in the minority of cases where workers have actually lined-up a new job before quitting

> and are thus in a position to make a direct comparison between the two, wages and other economic factors play a larger role in the decision to quit than in the more typical situation where the worker quits his job and then looks for another [p. 28].

Job satisfaction. Wages, job security, and occupational identity, although factors contributing to job satisfaction and dissatisfaction, were isolated and discussed separately at the risk of losing the interaction between all factors that contribute to job satisfaction. However, the nature and amount of research available on wages, job security, and occupational identity seemed to warrant this somewhat arbitrary separation. In this section then, other factors, especially those related to the job itself (called "motivators" by Herzberg, 1959, p. 114) are considered. Before reviewing the results of some recent job attitude research, several views of job satisfaction are discussed.

Herzberg (1959, pp. 44-54) and his associates, prior to their study of engineers and accountants in the Pittsburgh area, identified three components relative to the study of job attitudes:

1. First-level factors which are objective elements in which the respondent finds a source for his good or bad feelings about the job.
2. Second-level factors which are those subjective feelings of the individual which may be positive, negative, or indifferent in response to the first-level factor.
3. Effects of job attitudes which may be in terms of performance, turnover, mental health, effects on interpersonal relationships and/or attitudes.

What was thought to be one of the major contributions of the Herzberg study was the conclusion that various first-level factors do not contribute equally to satisfaction and to dissatisfaction; that the main satisfiers relate to the performance of jobs while those that act more strongly as dissatisfiers describe the job situations. This suggested to Herzberg that intrinsic factors act as motivators and provide the most job satisfaction while extrinsic factors are more influential in the area of job attitude "hygiene." When the hygiene factors deteriorate to a low level, they act as dissatisfiers, although the reverse was not found to be true (Herzberg, 1959, Chapter 12).

Several studies have attempted to replicate Herzberg's findings using different methods without success (see Locke, 1968, pp. 5-7). The conclusion of Wood and LeBold (1967, pp. 1-2) was that Herzberg's model of job satisfaction helped illustrate the "multidimensional" nature of job satisfaction, but that his model suffered from "oversimplification," a charge borne out by considerable subsequent research. Locke (1968, p. 7) criticized Herzberg's research as well as job-satisfaction research of many others because of their failure to define job satisfaction and dissatisfaction in terms of the psychological framework in which one's job attitudes are formed. Locke developed the framework in the following manner:

1. Job satisfaction and dissatisfaction are "complex emotional reactions to the job." All emotions are the products of value judgments; a "value" is that which one acts to gain and/or keep and that which one regards as conducive to one's welfare (Locke has drawn from Branden's views on emotions and values, Branden, 1966).
2. Man's most basic emotions are pleasure and displeasure. Pleasure is the consequence of (perceived) value achievement. Displeasure is the consequence of (perceived) value negation or value frustration.
3. Job satisfaction and dissatisfaction are a function of the perceived relationship between what one wants from one's job and what one

perceives it as offering or entailing. Note the three parts: a perception of a job aspect; an explicit or implicit value standard; a conscious or subconscious judgment of the relationship between one's perception(s) and one's value(s). Man's needs and values may be quite different, but it is his values which regulate his actions and determine his emotional responses.

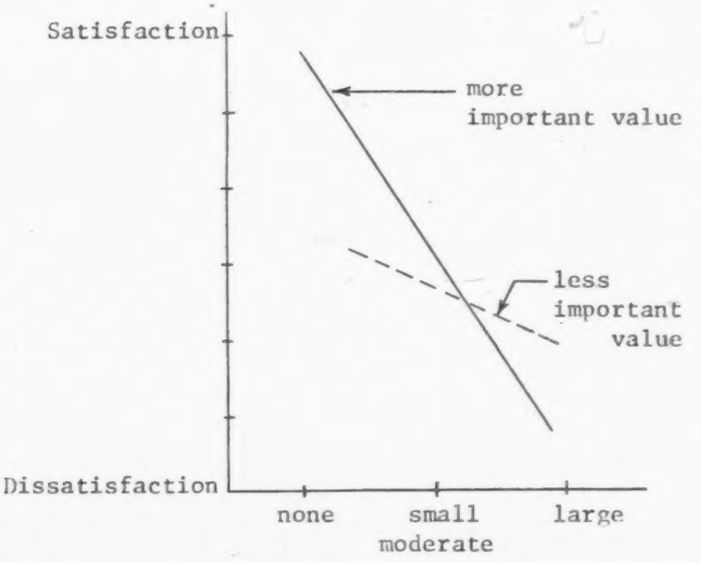
4. Every value has two attributes: content and intensity. Content refers to what the person wants to gain and/or keep; intensity refers to how much he wants to gain or keep it (here Locke has drawn ideas from Ayn Rand, 1966). Three studies correlated stated job satisfaction with the absolute difference between the amount of an element subjects had on a job and the amount they would have liked: the results were correlations of .62, .72, and .81, respectively. Use of only the perception ratings resulted in correlations of around .50. Locke sought to validate his techniques, which appear to be sensitive and useful. In order to do this he correlated his results with what appears to be a quite crude criterion: stated job satisfaction.
5. Overall job satisfaction is the sum of the evaluations of the discriminable elements of which the job is composed (pp. 7-28).

As Figure 2.1 indicates, values contribute to both satisfaction and dissatisfaction although a less important value, e.g., recreation value, will contribute less in both directions than will a more important value, e.g., creativity or autonomy. Locke did not report any study that related his job satisfaction approach to employment mobility.

The definition of job satisfaction to which one subscribes determines the data collection device chosen. Locke's conceptual definition requires that three bits of information be gathered: what one's values are, how important the various values are, and to what degree the individual perceives that his job is contributing to or distracting from each value.

FIGURE 2.1

THEORETICAL FUNCTION[1]



Absolute percept-value discrepancy

[1] Adapted from Locke, 1968.

Another, more common approach is to follow the cliche, "If you want to know, ask them!" implying the use of the most straight-forward question, "To what degree are you satisfied with your job?"

A number of occupational attitude instruments have been developed and are available. Among these are the "Job Description Index," developed primarily by Hulin and Smith at Cornell; "Factors for Job Satisfaction and Job Dissatisfaction," designed by Dunnette and others at the University of Minnesota to test the Herzberg theory of job satisfaction; and the "SRA Employee Attitude Survey" which has been extensively tested. (Copies of these and many more occupational attitude instruments are included in the helpful book by

Robinson, Athanasiou, and Head, 1969.) These instruments collect information on several factors such as attitude toward the work itself, pay, company policies and practices, interpersonal relations, personal progress and development, and hypothetical job offers.

When job satisfaction is being considered in its relation to voluntary job turnover, one of several techniques may be employed. An exit interview is the major method used by life insurance companies (Katzell, et al., 1971, p. 54). The problems with this method are: (1) there is a tendency to receive a "standard 'shopping list' of platitudinous reasons for leaving," and (2) people leaving a job often feel a need to justify their move. Support for these generalizations is suggested by the lack of correspondence between the reasons for quitting given at the time of termination and six months later (Lefkowitz and Katz, 1969). Other methods include inquiring into employees' reasons for taking a new job and inferring the reasons for quitting; obtaining reports from the employer concerning the attitudes of the employee; studying the reasons for leaving as well as the job assignment, occupation, and hiring agency to which the employee moved. When a longitudinal study is not possible, the researcher can collect data from those on the job who may and may not intend to leave, and, if possible, from those who have left the employment under study. Comparisons can then be made of the different groups.

Since job dissatisfaction may lead not only to job termination, but, for those who stay, may lead to low morale and inefficiency, institutions are interested in the causes of dissatisfaction as well as in the shifts that may be occurring in the attitudes of different groups. Hulin and Smith (1964) directed a study of 295 male workers and 163 female workers from four industries to determine sex differences in job satisfaction. They found that in three of the four plants, the female workers were significantly less satisfied than the male workers. On the other hand, two larger studies that included teachers (Evans and Maas, 1969, p. 33; French and Cook, 1969, p. 12) revealed that women were more satisfied with teaching than were men. The massive study by French and Cook revealed that 91.4 percent of the male college graduates employed in schools and 95.2 percent of the females thus employed were "satisfied" with their job. Little attempt was made in these studies to determine the sources of the satisfaction and dissatisfaction.

In studying the factors that are associated with tradesmen leaving the shop and entering the teaching profession, Parks (1965) identified two intrinsic factors as most often cited: the quest for self-realization and the desire to be of service. When asked to list their major reason for taking their current job, the largest number (about 30 percent) of Illinois community college occupational instructors listed "challenging job" (Thompson, 1972, p. 139). However, when the same group was asked their major reason for leaving their prior job, the two most commonly mentioned reasons were (1) opportunity for advancement (33.7 percent listed this); and (2) opportunity for advancement limited (31.5 percent). Presumably the first of these referred to the current job, while the second referred to the previous job.

Londover (1970, p. 74) conducted a study to determine the factors that drew people into teaching after they had been educated and working in a different occupation. He found that regardless of sex, subjects 24-29 years old tended to be dissatisfied with their previous employment in terms of what they wanted out of work itself -- e.g., challenge, personal growth, creativity -- as well as factors in the work environment, e.g., too much supervision, poor managerial planning.

In this section, an attempt was made to illustrate the multidimensional nature of job satisfaction and to discuss a few of the findings of job-satisfaction research. While the attitudes of workers affect their morale and, consequently, their work, in this study we are most interested in the relationship between job attitudes and job turnover. Although considerable progress has been made in conceptualizing job satisfaction and dissatisfaction, considerable disagreement exists in terms of the best data collection instrument and technique. Much of the difficulty arises from the individualistic nature of job satisfaction which is summarized well in a statement made over 20 years ago (Myers and Schultz, 1951):

> There is simply no one fixed scale of job factors, listed in order of importance, that is held by most workers at all times. Rather, the importance that particular workers, or a group of workers, attach to any given job factor is a product of the total situation in which they find themselves at a particular time [p. 132].

A final caution needs to be noted: the responses to questions on job satisfaction are greatly influenced by how the question(s) is asked and, if options for response are provided, to what options the subject is asked to respond. Since open-ended questions are difficult to code, many researchers prefer to use a list of questions or a series of items or descriptors to which the subject responds. While such questions or items may be an aid to the researcher in facilitating analysis and may be an aid for the subject by jogging his memory and, perhaps, reducing the time required to respond, such devices can be extremely confining and/or biasing.

Occupational and professional attachment. The term "professional attachment" is a special application of the broader concept, "occupational attachment." As used here, professional attachment refers to occupational attachment in those occupations generally considered professions. On the basis of the process through which occupations pass in order to be considered professions, Wilensky (1964) considers the teaching occupation in the group of professions "in process, some marginal." Hall (1969) studied the attitudes of individuals in a number of professional categories and concluded that the educator lacks the autonomy and self-regulation to be fully professionalized (pp. 108-113). The more autonomous nature of college teaching positions has helped the academician to be considered more professionalized than his elementary and secondary school counterparts. On the basis of these studies, the educational occupations will be considered professions, albeit, marginal, in process, or peripheral.

Occupational mobility is linked closely with the degree of attachment one has with the occupation. After comparing four professional categories, Carr-Saunders (1955, pp. 280-281) concluded that occupational mobility was lowest where professional attachment was highest. Although the Carr-Saunders conclusion was made in reference to several groups, it seems likely that the same relationship would be true of individuals, i.e., the more occupational (or professional) attachment one has, the less likely he will be to change occupations, all other factors remaining constant. On the other hand, occupational attachment would not necessarily prevent job mobility. In our society, educators, for example, do not have to build a clientele as do individuals in some other professions. Brown (1967), after studying the mobility of college professors, stated:

> Job switching, mostly voluntary, is the rule. The idea of working one's way up in a single institution, without seriously considering jobs at other schools, is foreign to faculties . . . . Because loyalty to discipline transcends loyalty to school and because teaching-research skills are readily transferable among schools, mobility is accepted and approved by the profession [p. 25].

But the population of college professors and the population of occupational educators, while they may overlap to a degree, are not identical. With the diverse backgrounds which occupational educators exhibit, one would speculate that occupational attachment may well vary considerably from group to group as well as possibly varying between individuals with different career patterns within groups. For example, individuals who have graduated from a college teacher education program have participated in a process which is in part designed to professionalize them. This point is supported by the research of Mooney (1967) who found that a generally continuous pattern of professional growth was demonstrated throughout the undergraduate program of students majoring in industrial arts teacher education. These students upon completing their student teaching exhibited professional viewpoints more like those of their teacher educators than like their supervising teachers, second-year industrial arts teachers, and other college industrial arts students.

The individual who has become a skilled tool and die maker, and then has become a teacher of this occupation with no college education, may identify more with the occupation of tool and die maker than with that of occupational educator. Nurses' training is also designed to inculcate a professional identity. A nurse educator in a vocational school is caught between demands to identify with nurses, nursing educators, occupational educators, and educators in general. In a social-class conscious society, the concept of upward mobility generally assumes that most people will readily accept the identity of their new occupation if it is of higher status than was their previous occupation. But an identity problem develops when the individual perceives both previous and current occupations as being of nearly equal status, or the former as having higher status than the current occupation.

Occupational attachment has been viewed by different researchers and writers as consisting of different elements. One of the purposes of a study of 199 male industrial workers in Springfield, Illinois (Palmer, Parnes, and Wilcock, 1962, p. 14) was to determine the occupational attachment of the subjects. Five basic measures of occupational attachment were used:

A. Feelings of satisfaction and identification

    1. A composite index of occupational satisfaction and suitability

    2. Identification with the occupation

B. Man's chances of staying in his current occupation

    3. The nature of job expectations five years from date of interview

    4. Recent thought of going into another type of work

    5. Reaction to a hypothetical threat of permanent layoff

Becker and Carper (1956) studied the differences in occupational identification among graduate students in physiology, philosophy, and mechanical engineering. The four elements chosen for identification were:

1. Occupational title and its related ideologies
2. An individual's commitment to specific tasks
3. An individual's commitment to particular organizations or positions within institutions
4. The importance of one's position for the larger society

Reference group identity is thought to be an important aspect of occupational attachment. "Reference group" is any group (1) in which the individual is motivated to gain or maintain acceptance; (2) which the person uses as a reference in making evaluations of himself and others. Hence, the reference group can have two functions: (1) setting and enforcing standards for the person; and (2) serving as or being a standard or comparison against which the person can evaluate himself and others (Kelley, 1968, pp. 78-81). A reference "group" may consist of a single person, e.g., a father, or any group that has something in common with the person, e.g., one's social peer group, lodge member, church group, or others in one's occupation or profession. Hartley (1968) explained that:

> Individuals, however, do not necessarily join new groups because they are seeking like-minded companions. Their overt objectives may be entirely pragmatic, ulterior, and removed from any consideration of compatibility . . . . The transformation of the new group from one of nominal membership to one serving a reference function, however, may depend to a critical extent on its compatibility with aspects of the individual's previous experience and his personal preferences [p. 240].

Hence, in a field such as occupational education in which the members of the group have come from a diverse range of socioeconomic backgrounds and have developed their skills in a variety of ways, the willingness and ability of the individuals to develop professional identity with occupational education is expected to vary considerably. The degree of professional identity and attachment exhibited by the individual and its effect on occupational and job mobility is the focal point here.

Tenure and security. The studies of industrial workers in Springfield, Illinois, Columbus, Ohio, and Philadelphia

> testify to the importance of seniority rights in keeping workers tied to their jobs . . .
>
> While reluctance to sacrifice seniority may be the principal reason given by workers for not changing jobs, it is often accompanied by other attitudes that are not without significance. One such consideration is a general fear of the unknown . . . . Feelings of satisfaction in the particular job, expectation of better pay or advancement for the future, and, possibly, a sense of identification with a company all reinforce his general reluctance to change [Palmer, et al., 1962, p. 153].

While the focus of the book from which Palmer's quote was taken, is the "reluctant job changer," other studies have examined a wider range of workers and offer a more complete picture of the mobility of the labor force. Lansing and Mueller (1967), for example, placed the issue of security into a bipolar framework in which a security orientation would be expected to hamper mobility and an achievement orientation would be expected to encourage mobility (pp. 186-191). To obtain the relative orientation of their subjects, these researchers asked their subjects to rank order their preferences of six job characteristics: income is steady, income is high, no danger of being fired or unemployed, short working hours/lots of free time, chances for advancement are good, and work is important/gives a feeling of accomplishment. Lansing and Mueller found that a relationship did exist in the predicted direction between geographic (labor market) mobility and achievement-security orientation. However, when multiple regression equations were used, the achievement-security orientation showed no relation to mobility. The conclusion was that "geographically mobile people differ from the non-mobile in achievement-security orientation only to the extent that they have characteristics associated both with orientation and mobility [p. 189]."

The findings in the Lansing and Mueller study might be questioned on the basis of the data collection device utilized. Perhaps an empirical measure would have been a more valid measure of security orientation than the subject's rank ordering of items. Nevertheless, the study calls into question an assumption of long standing and suggests that more research is needed on this variable.

Factors Unique to Education and Occupational Education

Certain relatively unique factors that are associated with the work environment may influence the mobility of occupational educators. Some have to do with interpersonal relations, some with equipment, and others with the school physical arrangements. Most of these variables have not been carefully researched relative to job and occupational mobility. A rationale for including each variable is given.

Size of school. The size of the school in full-time equivalent enrollment and the size of the vocational program in full-time equivalent enrollment are two stable measures which may be used to identify size. Two perspectives may be brought to bear on this factor. Generally, larger schools are situated in larger cities, and larger cities tend to compensate their employees at somewhat higher levels than do smaller cities and rural districts. The larger schools may well have more and better equipment although this certainly is not a hard, fast rule. If this description is generally correct, teachers might be expected to prefer a position in the larger schools.

Another perspective suggests that larger schools tend to be in central cities and are plagued by discipline problems. Hence, they would be a less desirable place for a teacher. The data gathered by the U.S. Office of Education (U.S. Department of Health, Education, and Welfare, 1972a, pp. 53-54) support the mobility pattern suggested in the former explanation, i.e., (1) movement between districts was low in central cities, higher in suburban districts, and highest in other areas; (2) experienced teachers were more heavily represented in the central cities than in the other two types of areas; (3) the movement out of teaching to nonteaching occupations was lowest in the central cities--less than 1 percent.

The national study by Kay (1970) revealed that the median earnings of vocational education teachers were positively correlated with size of community, with $7,800 annual salary reported from rural areas and $9,900 reported from the largest city category. Median salaries by size of school varied in the same direction. In schools with under 500 enrollment, the median salary for vocational teachers was $7,800; in schools with enrollments over 1,000, the median salary was $9,700 (p. 6). However, these statistics do not hold tenure (years in the system) constant. Therefore, if teachers in larger schools and in more urbanized communities have longer tenure than teachers in suburbs and more rural communities as indicated by the data from the U.S. Office of Education, the median salaries reported by Kay reflect tenure of the teachers as well as any salary differentials that may be present as a result of school size.

These data do not prove the first explanation; they only indicate a gross picture of what differences in mobility were occuring among educators in rural, suburban, and metropolitan areas.

Teaching or counseling load. The problem area mentioned most often (34.7 percent) by the nearly 1600 primary and secondary teachers in the NEA 1971 survey was large class size. To the degree that this problem becomes a real source of job dissatisfaction, it contributes to voluntary job or occupational mobility. The community college occupational instructors surveyed by Thompson (1972) made no reference to teaching load as a reason for quitting their previous jobs or taking their current job. This may have been a result, in part, of the fact that Thompson asked the subjects to respond to a list of suggested reasons for leaving one position and taking the next, a list that did not include "large class size." Although the respondents were encouraged to add more reasons if they wished, the majority did not. It is also conceivable that the teaching loads of community college educators in Illinois have been less demanding than those for elementary and secondary school educators.

Types of school. Vocational and technical education is offered at three basic levels or types of public schools: comprehensive high schools, specialized vocational schools (both secondary and post-secondary levels); and junior and senior colleges. Some studies have indicated that differences exist among the three groups of teachers. Kay's (1970) national study of vocational teachers revealed an age difference in the different program levels as indicated in Table 2.9.

TABLE 2.9

VOCATIONAL EDUCATION TEACHERS--AGE BY TYPE OF SCHOOL--1969[1]

Type of school	Percentage under 30 years old		
	Total	Male	Female
Regular or comprehensive high school	22.7	21.5	24.2
Vocational and technical	13.8	12.2	16.5
Community/junior college	10.4	9.6	11.7
University and college	5.4	4.0	8.3

[1] Adapted from Kay, 1970, p. 17.

Other differences seem to be present among the vocational educators at the different program levels. Table 2.10 compares the educational backgrounds of the vocational educators in Kay's (1970) study of vocational educators at all levels, with the educational backgrounds of community college occupational teachers in Illinois (Thompson, 1970) and occupational instructors in Wisconsin's post-secondary Vocational, Technical, and Adult educational program (Gibbs, 1969).

In addition to differences in demographic factors, some findings also suggest that differences in mobility exist among the different levels. Table 2.11 compares the reasons for vacancies between public school teachers in 1969 (U.S. Department of Health, Education, and Welfare, 1972a) and college instructors in 1964 (Brown, 1967). Although a five year time span separates the two studies, both studies were made at a time when the market for educators was active. The growth in enrollments in 1964 was somewhat greater than in 1969 (U.S. Department of Health, Education, and Welfare, 1972c, p. 57).

TABLE 2.10

EDUCATIONAL ATTAINMENT OF VOCATIONAL EDUCATORS IN THREE STUDIES (percent)

Level of education attained	National study all levels combined[1]	Wisconsin post-secondary[2]	Illinois community college[3]
Less than Bachelor's[4]	25.7	15.7	10.4
Bachelor's	41.3	61.1	21.4
Master's	32.1	15.4	64.1
Doctor's	.9	7.9	4.0

[1] Adapted from Kay, 1970, p. 18, N=2,574.

[2] Adapted from Gibbs, 1969, p. 24, N=1,067.

[3] Adapted from Thompson, 1972, p. 74, N=276

[4] This category includes "other" degrees and certificates that do not fall into the other three categories.

TABLE 2.11

REASONS FOR VACANCIES--PUBLIC SCHOOL TEACHERS AND COLLEGE INSTRUCTORS (Percent of Respective Teaching Force)

Reason for leaving	Public school Teachers 1969[1]	College Instructors 1964[2]
Death and retirement	1.9	1.2
Move to nonteaching job in education	.7	.4
Leave of absence/return to studies	1.2	2.3
Job in other school	5.9	4.1
Job outside education	1.3	.5
Other/unknown	4.2	1.6
PERCENT OF RESPECTIVE TEACHING FORCE	15.2	10.1

[1] Adapted from U.S. Department of Health, Education, and Welfare, 1972c, Table 5, p. 51.

[2] Adapted from Brown, 1967, p. 28.

The figures in Table 2.11 indicate that teachers at lower educational levels tend to be more mobile. Carlson (in Scheider, 1973) has reported that about only 10 percent of all male teachers remain in educational jobs longer than five years (in elementary and secondary education, it is assumed.) Carlson's findings seem to contradict the findings of Sharp (1970, p. 47) who concluded that teachers after five years of teaching were strongly committed to their occupation with nearly 80 percent of the B.A. group and 90 percent of the M.A. group wanting to remain in the field of education. A follow-up to Sharp's study would be necessary to determine the accuracy of the stated intentions and to see if five years is really a magic number.

Findings in the studies reviewed suggest that some significant differences in characteristics, background, and mobility may be present among the educators in the three levels of occupational education. If the subjects in the three levels of schools represent three distinct populations, and an analysis is desired to discriminate between those educators who are stable and those who are mobile, the three populations should be analyzed as separate groups to avoid an interaction which would reduce the validity of the research. Hence, in this study type of school is used as a classificatory variable where cell size has permitted such use.

Area of specialization. This factor, like school type, is treated as a classificatory variable in the study, based on the review of literature. To consider all occupational educators as one more or less homogenous group, or to attempt to put area of specialization into a discriminant analysis (on what basis could the classification be made ordinal?) would likely result in the loss of some important differences. A sampling of those differences are shown in Table 2.12.

TABLE 2.12

DIFFERENCES AMONG VOCATIONAL EDUCATORS BY AREA OF SPECIALIZATION SELECTED FACTORS 1969[1]

Area of Specialization	A. Age-percent under 30 years old	B. Percent less than five years in voc. teaching	C. Average class size	D. Percent without bachelor's degree
Agriculture	21.0	23.1	17	2.3
Distributive Education	30.6	41.5	22	2.6
Health Occupations	14.7	61.5	20	9.5
Home Economics	28.0	26.9	22	1.7
Office Occupations	24.9	29.4	26	1.8
Technical Education	14.6	44.8	20	29.9
Trades and Industry	8.2	43.6	22	38.4

[1] All data are from Kay, 1970, pp. 15-22. The figures in columns A, B, and C are for secondary schools only; column D refers to all levels of instruction combined.

Other factors. Although the factors commonly related to employment mobility have been identified and discussed briefly in the foregoing discussion, the possibility of identifying more factors exists. Clues to other factors may be found in the reasons occupational educators have given for leaving or entering occupational education employment, or the reasons given for switching schools. Some of these items were subsumed under the section discussing job satisfaction.

Thompson (1972) asked the Illinois community college instructors in his study to indicate their major reason for leaving their previous employment by checking the options on a list or adding their own. Thompson (1972, p. 142) grouped the reasons into three categories: personal reasons, financial reasons, and other reasons related to working conditions.

1. Personal reasons included friends too far away, relatives too far away, relatives too close, geographic location undesirable, go to school, husband transferred, laid off, graduated from school, pregnancy, retirement.
2. Financial reasons included salary too low, fringe benfits poor, and no opportunities for outside income.
3. Working conditions included colleagues not competent, opportunity for advancement, opportunity for advancement limited, too much supervision, lack of managerial foresight, low level of job creativity, teaching hours excessive, job no longer available, no job security, and too much pressure.

The highest percentage of respondents (59.1 percent) named working conditions as the major reason for leaving their last employment. Personal reasons were listed by 32.9 percent, and only 7.9 percent of the community college teachers listed financial reasons for leaving. Observation of the "working conditions" list indicates that it is heavily loaded with "extrinsic" factors, i.e., factors related to the work environment and not to the feelings of the instructor toward the work itself ("intrinsic" factors).

The picture portrayed by the reasons people gave for taking their current job was only slightly different. The main reasons were still overwhelmingly related to working conditions, but the relative rank of financial reasons and personal reasons was reversed.

Summary

An attempt has been made in this chapter to identify and review briefly the research which has been done on job and occupational mobility in the American labor force. This field is broad, and the approaches to the study of mobility have been diverse. Much of the research cited was completed in the industrial sector of society, while the employment mobility of vocational educators has been the subject of few studies. Whether this reflects a lack of interest, personnel, competence, funds, or a combination of several of these factors, is not clear. The literature that was found to have considered the subject of occupational mobility of vocational educators was restricted to state-wide studies of one level of the field (e.g., Gibbs, 1969, and Thompson, 1972) and to state-wide studies of one area of occupational education (e.g., Schill, 1963).

In the preceding section, factors were discussed that have been identified by other researchers as being related to employment mobility. These factors are summarized here, with the direction of the anticipated relationship indicated, if previous research has shown or suggested a directional relationship (e.g., a positive relationship indicates that on ordinal factors, an increase in the level of the factor is accompanied by an increase in employment mobility, and vice-versa). Where evidence from the literature is not clear, a hypothesized relationship is indicated.

A. Demographic factors -

1. Educational attainment: positive relationship.
2. Age: inverse relationship.
3. Sex: males more mobile.
4. Marital and family status: married people less mobile than single; school age children in the home associated with decreased mobility.
5. Region of the country: in general, the region experiencing the most population growth supports the most job mobility. Areas in the West and South have shown the highest rates of population

growth since 1930 with the following increases reported for the 1960-1970 decade: Northeast 9.8 percent, North Central 9.6 percent, South 14.2 percent, and West 24.1 percent (Department of Commerce, 1972, p. 1-50).

6. Community size: positive relationship.
7. Race: black occupational educators hypothesized to be less likely to change schools than their nonblack counterparts.
8. Socioeconomic status of parents and socioeconomic status of the subject before employment in occupational education: if an occupational educator were raised in a home of relatively high socioeconomic status, he or she might be more likely than an individual with lower socioeconomic background to strive for higher positions within the field or leave the field altogether. Research suggests that the socioeconomic status of the individual before an occupational move seems to be of less importance than does the socioeconomic status of the home in which he was raised.
9. Past mobility: positive relationship.
10. Community attachment: inverse relationship.
11. Location of friends and relatives: mobility greater for persons employed away from friends and relatives.
12. Personal preference for a geographic area: inverse relationship.

B. Job-related factors

1. Wages: inverse relationship.
2. Job satisfaction: inverse relationship.
3. Occupational attachment and professional identity: inverse relationship.

4. Tenure and security: inverse relationship.

5. Interpersonal relationships: tendency to move increased if interpersonal relationships deteriorate.

C. Factors unique to occupational educators

1. Size of school: inverse relationship.

2. Teaching or counseling load: positive relationship.

3. Number of years in noneducational employment: curvilinear relationship hypothesized, with low mobility associated with both extremes of years in noneducational employment.

4. Type of school: mobility of occupational educators hypothesized to be highest in comprehensive and regular high schools and lowest in junior and senior colleges with vocational school educators having an intermediate level of mobility. This hypothesis was based primarily on the age differentials found by Kay in these three levels of education.

5. Area of specialization: for the most part, individuals in the various areas of specialization are in separate universes with some vertical mobility but extremely little lateral movement between areas of specialization. No research was found comparing employment mobility across the areas of specialization. However, it was hypothesized that the areas of specialization which are presently most dynamic in terms of program enrollment increase will exhibit the highest rates of employment mobility. The area that has shown the greatest proportional increase recently is the health occupational area; the area of business, office occupations, and distributive education is second in percentage increase.

While an attempt was made to identify the studies that discuss employment mobility and correlates of employment mobility, undoubtedly, some relevant studies were unintentionally overlooked. Likewise, some correlates of employment mobility in the literature reviewed may have been unintentionally omitted, although the former error is more likely than the latter.

CHAPTER III

METHODS AND PROCEDURES

Standard survey research techniques were utilized in the implementation of this causal-comparative study. A questionnaire was developed and validated; a national sample was drawn, and the data were collected in a mailed survey. The steps or phases of the study are discussed in the following sections which consider: (1) research design, (2) development of the questionnaires, (3) pilot study, (4) selection of the sample, (5) survey procedure, and (6) data recording and processing.

Research Design

Occupational, educational, and personal information was gathered from a 2 percent national sampling of all full-time educators who were employed half-time or more in occupational education programs during the 1972-73 school year. The occupational educators were identified in a stratified random sampling of three types of schools:

Type 1. Regular and comprehensive high schools.

Type 2. Specialized vocational schools, secondary and post-secondary.

Type 3. Junior and senior colleges with programs of less than baccalaureate level.

In addition to sampling the occupational educators currently employed in the schools drawn, questionnaires were sent to 238 occupational educators who had been employed during the previous five years in the schools sampled but had left for reasons other than retirement. These individuals were all placed into the Mobile Educator category.

The information collected was used initially to divide the subjects into two groups as defined in the section entitled "Purpose of the Study." These two groups were separated on the basis of the variable, employment mobility, and were defined as follows:

1. Stable Educators were defined as those occupational educators who expected to remain in the school systems in the study for five years or more from the time of the survey.
2. Mobile Educators were defined as those occupational educators who expected to leave the school systems in the study within the five years following the study for reasons other than retirement, and those occupational educators who had left the schools in the study within the five years preceding the study for reasons other than retirement.

The major limitation of these definitions was discussed in the section, "Limitations of the Study." Although actual mobility was the criterion which was used to place all those who had left the employment of the schools in the study into the "mobile educators" classification, expected mobility was the criterion used to dichotomize the 2,777 respondents in the main sample. No significance tests or other type of analysis were performed to determine the extent to which those who had left and those who expected to leave were similar.

Two errors are possible with these criteria: to classify someone as mobile who ultimately stays in the school system for more than five years; and to classify someone as stable who leaves the system within five years. But these errors may be inherent regardless of the type of criteria used. For example, to use past mobility as a criterion for dichotomizing educators or any other occupational group runs the risk of labeling individuals as mobile because they have moved frequently during their trial career stage which may have been immediately before a study, although the same individuals have subsequently found satisfying jobs and expect to remain in their respective jobs for some time.

The literature review supported further division of the population by two classificatory variables: (1) area of specialization and function, and (2) type of school. The rationale for these divisions was based on the evidence that the labor force of occupational education consists of a number of distinct labor markets and some overlapping labor markets. For example, the practical nurse educator is in a different labor market than is the agribusiness instructor or the police science instructor. However, an overlap may occur for some technical educators and those in other fields, e.g., trade and industrial education. Overlap may occur as well in the case of coordinators and administrators of total programs. An administrator may have had experience in any area of specialization before entering administration. The labor market distinctions among the three types of schools considered in this study seem not to be as clearly defined as are those for the areas of specialization. Nevertheless, studies such as Kay's (1970) indicate that some differences do exist among these groups of educators. The classification of schools utilized as a variable has already been delineated earlier in this section.

The variable for the areas of specialization and function was given the following classifications:

1. Applied biological and agricultural occupations
2. Business, marketing, and management occupations
3. Health occupations
4. Technical occupations
5. Trade and industrial oriented occupations

6. Personal and public service occupations
7. Vocational counselors
8. Total program administrators and coordinators
9. Related curriculum instructors

The first six classifications in this variable are patterned after the Office of Education (OE) coding with the exception that technical occupations are interspersed among the other five areas in the OE groupings (see Appendix B for a list of the OE Instructional Codes and Titles).

Another important step in the study was the determination of the independent variables. It is highly desirable but nearly impossible to choose variables that are truly exogeneous, i.e., that are uncorrelated with the dependent variable, employment mobility. Hanoch (1967), in the process of choosing variables that might contribute to earnings, concluded, "Hence, one must weigh the benefits against the undesirable aspects of including each set of variables, experiment with the results, and finally make the arbitrary but unavoidable educated choice [p. 312]." The list of factors compiled in the review of the literature was expanded slightly to include the following factors for initial analysis. The values used for each variable are shown in Appendix B.

A. Demographic variables
    1. Sex
    2. Age
    3. Race
    4. Marital status
    5. Number of school age and preschool age children at home
B. Childhood variables
    1. Size of home community

2. Enrollment of high school attended
3. Father's educational attainment
4. Father's socioeconomic status
5. Father's occupation
    a. In education, not in education
    b. Farm, blue collar, white collar
6. Mother's educational attainment

C. Geographic and community variables

1. Distance from home community
2. Distance from spouse's home community
3. Region of the country
4. Size of community
5. Change in community size since last move
6. Distance from parents
7. Distance from spouse's parents
8. Population density of state
9. Index of interstate mobility
10. Number of nonprofessional organization memberships

D. Work variables

1. Tenure status
2. Adjusted monthly income
3. Years in current system
4. Years in current position
5. Average class size (or number of assigned counselees)
6. Number of contact hours (teachers only)
7. Reasons for taking job
8. Enrollments in vocational program
9. Total enrollment of school

E. Previous employment

1. Total years of full-time noneducational work
2. Years since last related noneducational work
3. Total years in educational jobs
4. Average number of years in each educational job
5. Years in occupational education
6. Change of enrollments--past school to present school
7. Reasons for leaving previous job
8. Career sequence prior to entering occupational education

F. Educational variables

1. High school major
2. Undergraduate major
3. Educational attainment
4. Method of teacher preparation (teachers only)
5. Method of vocational skill acquisition (teachers only)
6. When choice was made to enter occupational education

G. Professional identity and plans

1. Identity group
2. Personal associations
3. Number of vocational association memberships
4. Number of educational association memberships
5. Number of professional organization memberships
6. Present educational endeavors
7. Plans for further education in relation to present educational attainment

These factors were compared one at a time to the mobility variable and chi-square tests of independence were utilized. After an examination of the crosstabulations and a review of the variables with the purposes of the study in mind, the list of variables was reduced, and a discriminant analysis was performed for the purpose of identifying the factors that discriminate the most between the mobile group and the stable group. A discriminant function was developed for each of the nine areas of specialization.

Development of the Questionnaires

Two basic questionnaires were devised: one for a representative from each school in the study, designed to gather basic information about the school and the community in which it operated; the other questionnaire for employees of the schools, designed to obtain personal information that might relate to employment mobility. Instruments developed by Kay (1970), Gibbs (1969), Brown (1967), Thompson (1972), and others were examined, and with the purposes of this study at hand, preliminary instruments were prepared. The instruments underwent two revisions with helpful advice from Rupert Evans, Professor of Vocational and Technical Education, Professor Bernard Karsh of the Institute of Labor and Industrial Relations and Professor Matthew Hauck and Ellen Byars of the Survey Research Laboratory, all of the University of Illinois. The questionnaires were then administered to eight graduate students and one professor in the Department of Vocational and Technical Education of the University of Illinois. Since an important concern in the development of the instruments was to make the content of the questionnaires adaptable to occupational educators with diverse backgrounds and from all types of occupational programs, the nine test subjects chosen included persons with specialties in agriculture, trade and industrial education, office occupations, health occupations, and vocational program administration. Interviews were held with the subjects to determine face validity and to solicit additional comments on content, clarity, format, and time required for completion.

Pilot Study

Following this intial testing, appropriate changes, deletions, and additions were made and a larger pilot study was organized for the purpose of (1) testing a procedure for administering the survey, (2) making a more thorough validity check with educators more like those anticipated in the population, and (3) checking the reliability of the instruments.

Three institutions were chosen for the pilot study:

	N
1. Comprehensive high school: Normal Community High School Normal, Illinois.	
Occupational instructors, counselors, coordinators	26
Occupational program administrators	1
2. Specialized vocational school: Mallory Technical Institute Indianapolis, Indiana	
Occupational instructors, counselors, coordinators	37
Occupational program administrators	6
3. Junior College: Schoolcraft College, Livonia, Michigan	
Occupational instructors, counselors, coordinators	37
Occupational program administrators	6

These three institutions were chosen because (1) they represented the three types of schools to be included in the study; (2) at least one administrator was known at each institution, thus facilitating cooperation; (3) the three schools were within reasonable proximity to permit follow-up visits, and (4) the sizes of the vocational staffs in these institutions were sufficient to permit a meaningful test of the procedures and materials.

After receiving a description of the study and an invitation to participate as pilot schools, the administrators of the three schools furnished a list of the occupational educators in their institutions. A packet of questionnaires was prepared with each questionnaire coded to a name on the staff list to permit follow-up of nonrespondents. The packet was sent to the contact person in the institution who distributed them to the appropriate staff members. Upon completion of the questionnaire, the staff member returned the instrument in a self-addressed, stamped envelope to avoid the bias that might result if the questionnaires were channeled through an administrator. With few exceptions, this same procedure was used in the full-scale study.

After 60 percent of the questionnaires were completed and returned, arrangements were made to conduct personal interviews with a total of 34 participants in the pilot study. The subjects chosen were selected to include those individuals who had encountered some difficulty in interpreting or completing the instrument, as judged by missing data or marginal notes on the questionnaires. The interviews were conducted (1) to provide a validity check to determine if the respondents understood the questions in the way they were intended to be understood; (2) to determine if all subjects could respond appropriately to all items; (3) to determine if the cover letter and all instructions were easily understood; (4) to discover if any items were emotionally loaded or offensive; and (5) to determine if any additional information ought to be sought.

As a reliability check, 24 respondents who were not used for the validity check were randomly selected three weeks after completing the instrument and asked to respond again to six randomly selected items. The responses to the one question which had a continuous response scale had a reliability of .99. The other five items had nominal response scales and were answered the same respectively on the two instruments 85.7 percent, 83.3 percent, 95.5 percent, 91.7 percent, and 73.9 percent of the time.

Upon completion of the interviews and the reliability check, the instruments were scrutinized once more and final revisions were made (see Appendix C for samples of the questionnaires used in the full-scale study).

Selection of the Subjects

Although the subjects in the study were individual educators, the sampling model was built around a directory of schools, the Directory of Vocational Education Programs - 1966 (Center for Studies in Vocational and Technical Education, 1968). Since questionnaires were also to be sent to occupational educators who had left the institutions in the study during the last five years, the schools selected had to be in existence at least five years, a matter assured by use of the 1966 directory.

Schools with occupational education programs were drawn from three classifications: Type 1 - regular and comprehensive schools, Type 2 - secondary and post-secondary specialized vocational schools, and Type 3 - junior and senior colleges with occupational programs of less than baccalaureate level. The subjects consisted of the full-time employed and formerly employed instructors, coordinators, counselors, and administrators whose assignment was 50 percent or more in vocational or technical education, or, if formerly employed, whose assignment had been 50 percent or more in vocational or technical education when last employed in the respective school.

With budgetary, time, and manpower restrictions in mind, the original sampling model was designed (1) to provide a 2 percent sample of the full-time occupational educators in the public schools of the United States, and (2) to provide an approximately equal number of subjects from each type of program: high school, specialized vocational school, and college.

The most recent figures found on vocational education personnel were for fiscal year 1971 (Department of Health, Education, and Welfare, 1972c, p. 3). However, after adjusting these figures to reflect expected program growth, they were used to develop the sampling model on the assumption that all public school professional staff who qualified for vocational funds reimbursement were included in these figures, and on the further assumption that duplication in the figures was minimal. Considering the annual growth of vocational programs to be approximately 10 percent at this time, the figure of 117,586 full-time secondary and post-secondary vocational and technical educators in 1971 was increased 10 percent to 129,345. A 2 percent sample of this number is 2,587. However, since previous studies (e.g., Kay, 1970) have had difficulty obtaining more than a 65 percent response, the sample size was enlarged to allow for non-respondents. The sample size, based on a 65 percent return, became 3,980.

Since an approximately equal number of respondents was desired from each of the three types of schools, a spot check was made in the directory used to determine the approximate program size of each type of school. The directory lists enrollment figures in vocational and technical programs but not the number of occupational educators, per se. Hence, the number of educators was extrapolated using an estimation of 20 full-time students per instructor as a guide line. With this technique, the mean number of teachers per high school was estimated at about nine while the mean number of teachers in vocational schools and college programs was estimated at double that for high schools. These crude figures suggested that, if an equal number of educators was desired from each of the three types of schools, approximately two high schools should be drawn for every vocational school and college.

Since size of school was considered to be a potentially important independent variable, stratifying was done to assure the inclusion of adequate numbers of occupational educators from all sizes of institutions (this was not done for the specialized vocational schools as they tended to be more homogeneous in size than did the schools in the other two categories).

Since a wide geographic distribution of schools was desired in order to increase the likelihood of including educators employed in a broad range of school systems, stratification by region was also done. The regions used for purposes of the study were the nine regions defined by the Bureau of the Census (see Appendix B). However, since these regions are quite dissimilar in population, the number of schools drawn from each region reflected the differences in population in the respective regions. The actual selection of the institutions was randomly done within the three stratifications.

Taking into consideration the stratifications already described, the model described in Table 3.1 was developed. The actual number of participating schools is also shown in the table. As can be seen, 235 or 79.1 percent of the 297 schools in the sampling model participated in the study. Not all of the 235 institutions were from the original drawing as explained in the next section, "Survey Procedure."

Although the original intention was to do an "intact" study of each institution--i.e., to include all occupational educators in every school drawn in the sample--some disproportionately large schools were drawn. It was felt that little additional information would be gained from surveying all individuals in the large schools and the costs of doing so would be excessive. On advice of the Survey Research Laboratory, the decision was arbitrarily made to survey a maximum of 30 individuals from any one institution. So as to provide opportunity for occupational educators from very large schools to be adequately represented in the sample, however, they were given one chance of being drawn for every 1,000 full-time equivalent vocational students listed in the directory.

TABLE 3.1

SAMPLING MODEL AND ACTUAL PARTICIPATING SCHOOLS

	Sampling per Region									
Institution Type	1	2	3	4	5	6	7	8	9	Total
1. Regular and Compreh. High School										
1.1 LT 100 Students*	3	9	8	4	8	3	4	2	6	47
1.2 100-200 Students	3	9	8	4	8	3	4	2	6	47
1.3 MT 200 Students	3	9	8	4	8	3	4	2	6	47
Sub Total	9	27	24	12	24	9	12	6	18	141
Actual Participants	7	18	23	10	17	7	8	7	14	111
2. Specialized Voc. Schools	4	16	12	8	12	4	8	4	10	78
Actual Participants	3	7	9	7	10	3	8	2	7	56
3. Junior and Senior Colleges										
3.1 LT 250 Students	2	8	6	4	6	2	4	2	5	39
3.2 MT 249 Students	2	8	6	4	6	2	4	2	5	39
Sub Total	4	16	12	8	12	4	8	4	10	78
Actual Participants	4	15	9	7	9	5	7	4	8	68
Column Totals	17	59	48	28	48	17	28	14	38	297
Actual Participants-Totals	14	40	41	24	36	15	23	13	29	235

*Number of full-time equivalent vocational students; LT = less than, MT = more than.

Only one large school was drawn twice in the sample, using the procedure described. Sixty educators were randomly selected from that school for inclusion in the study. The procedure for stratifying the schools according to size prior to drawing them was only partially successful due to three reasons: (1) the model for determining size of program was based on an assumption of essentially uniform program structure; (2) the directory did not list enrollments for all schools; (3) programs and, in some cases, school organizational structures have changed since 1966. The result was that some supposedly small schools were larger than anticipated and vice versa.

The sampling model produced a distribution of schools that included the District of Columbia and all states except New Mexico and Arizona. The distribution of the types of school by state is shown in Appendix A, Table 1. The state with the largest number of participating schools was New York with 22.

Survey Procedures

A detailed account of the survey procedures is provided in Appendix E. A summary is included here.

The survey procedures followed in the full-scale study were similar to those developed in the pilot study. An invitation to participate in the study was sent to all schools drawn in the sample. If the administrator chose to have his staff participate, he sent a list of the names of the qualified individuals. If the administrator chose not to have his school participate, a replacement was randomly selected in the same cell, and an invitation was sent to that school.

Upon receipt of the lists, questionnaires were sent to the schools for distribution (these questionnaires are referred to hereafter as the "individuals" questionnaires). A few administrators preferred to have the questionnaires sent directly to the individuals. Upon completion of the instruments, the respondents returned the questionnaires directly in return-addressed envelopes. Two follow-up reminders were sent to the nonrespondents, the second accompanied by another copy of the questionnaire.

One administrator in each school was asked to complete and return a second questionnaire (known hereafter as the "administrators" questionnaire) which requested basic information about the school and the community in which it was situated. The administrators were also asked to furnish the names and addresses of those occupational educators who had left employment at their respective school systems within the last five years for reasons other than retirement. Of the 235 schools in the study (Table 3.1), 62 administrators furnished useable lists of names in time to be included in the study. Of the 320 names furnished, only 245 addresses were correct or forwardable. The distribution of the schools which furnished useable lists of "leavers" was broad with only one of the 27 cells (three types of schools in nine regions) not represented (see Table 2 of Appendix A). The "leavers" were sent questionnaires very similar to the ones sent to the individuals in the main study. Similar follow-up techniques were used with the "leavers" as were used with the subjects in the large sample.

Data Recording and Processing

The majority of the data could be transferred directly to punched cards. Certain responses, however, had to be coded or interpretted before they could be reduced to punched data. These special cases are discussed in Appendix D.

CHAPTER IV

ANALYSIS OF DATA AND DISCUSSION

Overview

Chapter IV has been organized into two major sections: the response to the survey and a brief description of the population are provided in the first section; this is followed in the next section by a description of the analyses and a discussion of the results. While the results of primary interest are presented in the text, additional supporting tables and other relevant information are included in the appendices.

Survey Response

In accordance with the sampling model, 297 schools were drawn and invited to participate in the study, but only 235 schools constituted the final sample. Time restrictions prevented replacement of all the institutions whose administrators did not choose to participate. However, the 235 schools provided an initial sample size of 3,886 subjects who were currently employed in the schools in the study. This number was later reduced when the questionnaires were processed and 106 subjects were found who did not meet the employment or assignment qualifications established for the sample. Of the net sample population of 3,780 occupational educators, 2,777 returned usable questionnaires before the termination date for a 73.46 percent return rate. As shown in Table 4.1, the cell with the lowest rate shows a 68 percent return while the highest cell rate is 92 percent. Thus, the goal of a 65 percent return per cell was exceeded in all cases.

In addition, 62 administrators sent usable lists of the names and addresses of occupational educators who had left their respective schools within the past

TABLE 4.1

NUMBER AND PERCENT RETURN BY REGION AND TYPE OF SCHOOL

Region	Type of School	Number of Subjects	Number of Respondents	Percent Return
I	High School	44	37	84
	Voc. School	80	60	75
	College	89	61	69
II	High School	116	89	77
	Voc. School	197	151	77
	College	337	235	70
III	High School	218	169	78
	Voc. School	235	166	71
	College	204	142	70
IV	High School	97	75	77
	Voc. School	175	132	75
	College	141	104	74
V	High School	166	116	70
	Voc. School	245	171	70
	College	191	129	68
VI	High School	47	43	92
	Voc. School	90	63	70
	College	146	116	80
VII	High School	28	22	79
	Voc. School	149	113	76
	College	144	110	76
VIII	High School	61	45	74
	Voc. School	56	42	75
	College	55	42	76
IX	High School	123	97	79
	Voc. School	186	133	72
	College	160	144	71
Total		3780	2777	73.46

five years. These lists yielded 283 addresses of which 38 were not forwardable. Seven more were later excluded from the "leavers" sample since they either had not been employed full time at the participating school or because the subject had retired and was no longer a potential participant in the labor market. These two reductions in the "leavers" sample resulted in a net "leavers" sample population of 238 individuals of whom 148 returned completed questionnaires for a 62.2 percent return. Although only a few more than a fourth of the school administrators provided lists of "leavers," the schools that did cooperate in the leaver phase of the study represented 26 of the 27 sampling cells (three types of schools within each of nine census regions).

The two sample populations, which were combined for certain analysis purposes, provided a total net sample size of 4,018 individuals of whom 2,925 returned usable instruments. Three factors explain why the actual sample size exceeded the proposed sample size of 3,980, although only 79 percent of the schools in the sampling model participated in the study:

1. The sizes of the programs shown in the directory from which the sample was drawn, were accepted at face value. Obviously, some growth had occurred in the vocational programs since the time when data were gathered for the six-year-old directory.
2. The technique for extrapolating the number of educators from the student enrollment data was crude and subject to error.
3. When the sampling model was developed, the size of the "leavers" sample was unknown and could not be relied on as part of the sample. Hence, the "leavers" sample constituted additional subjects beyond the initial sampling goal.

Thus, the size of the sample exceeded the goal of 2 percent of the population, estimated at 129,345 (see page 104). Another goal was to have approximately the same number of subjects from each of the three types of schools. Table 4.2 reveals that the distribution of the respondents was not equal.

Again, the sampling technique and a suspected unequal growth rate were considered responsible for the relatively smaller number of high school occupational educators sampled, since the percent return from high schools was equal to or higher than that for the other two types of schools in all regions but one (Table 4.1).

Since the analysis was to be done by area of specialization, i.e., to examine the factors associated with the propensity of occupational educators within each field to leave or stay in their current employment, the distribution of the population by area of specialization was important. Table 4.2 shows that trade and industrial educators constituted over one third of the respondents as compared to three smaller areas which together contributed only about 11 percent.

Other data showed that nearly 69 percent of the sample were male, distributed as shown in Table 4.2. Of the 94 percent who indicated their marital status, 81 percent were married. The data also revealed that the sample was predominantly caucasian with nonwhites constituting only 5 percent of the 94 percent who reported their race.

Analysis Of Data

The analysis of the data has been divided into three sections: in the first section, the chi-square statistic has been used to provide a composite picture of occupational educators in the three types of schools with the subjects' expected employment mobility as one of the independent variables and one of the 57 variables described in Appendix B as the other independent variable.

TABLE 4.2

DISTRIBUTION OF RESPONDENTS BY AREA OF SPECIALIZATION AND BY TYPE OF SCHOOL

Area of Specialization	Type of School			Total	Percent Male[1]
	Comprehensive and regular high schools	Specialized vocational schools	College programs		
Agricultural and applied biological occupations	46	27	38	111	98.3
Business, office, distributive occupations	177	140	191	508	51.5
Health occupations	8	102	227	337	11.4
Technical occupations	0	7	104	111	98.2
Trade and industrial occupations	200	504	294	998	97.2
Personal and public service occupations	115	59	72	246	19.5
Counselors	72	47	33	152	73.0
Administrators	58	103	68	229	91.3
Related curriculum instructors	17	42	26	85	66.2
Total	693	1031	1053	2777	68.8

[1] These figures represent the percent who were male of the 98.3 percent who indicated their sex.

The chi-square statistic is a measure of the independence between, not the association of, two variables. It indicates the probability of having a distribution by chance alone which is as different from statistical independence as the observed distribution. Hence, chi-square is no way implies cause or effect. A significance level is assigned as that probability level beyond which differences between two distributions are considered to be of importance to the researcher. It should be further noted that a significant chi-square statistic does not necessarily indicate a linear relationship between the two distributions.

In the second section of the analysis, the chi-square statistic was again used in examining the responses of the subjects within each field of specialization. Fewer statistically significant chi-squares were found in this section, in part because several of the fields of specialization were represented by relatively small sample sizes. Smaller sample sizes show larger relative error in probability testing, and small differences in values, therefore, do not result in a significant difference as readily for small samples as for large samples.

The third section or phase of the analysis was the development of a discriminant function for each of the nine fields of specialization. Since a goal of the study was to provide useful information for persons responsible for hiring staff, the choice of the variables to be included in the discriminant analysis was based not only on the chi-square analysis, but also on the identification of those variables (1) which might be most useful to a local administrator when hiring occupational educators, and (2) for which information is readily available.

Chi-Square Analysis by Types of School

The chi-square analysis was utilized to examine the independence between pairs of variables, one of which was the mobility variable (see page 95 for the definition of this variable). The variables with which the mobility variable was compared are listed in Appendix B with their sources and respective values. In this phase of the analysis, school type was held constant so that a composite picture of the employment mobility of occupational education in each school type could be developed.

One must be cautious in attempting to compare educators in the three types of schools as though the schools were alike in their programs and drew from the same labor market. Although a substantial overlap in labor markets occurs as explained in Chapter I, Table 4.2 shows that the programs operated by the three types of schools are not identical. For example, technical education is generally restricted to the post-secondary level as are many of the health occupations programs. On the other hand, the trade and industrial educators are more frequently represented at the secondary level.

On page 92, the hypothesis was presented that occupational educators in high schools are more mobile than occupational educators in the other two types of programs. Table 4.3 compares the numbers and percentages of mobile and stable educators in the three types of schools in the study. Although the table shows the relationship to be in the direction hypothesized, the differences among the groups from the three types of schools are not significant.

The chi-square results in the following tables show the significance of the difference between the groups at the .05 and .01 probability levels accompanied by the size of the group on which each chi-square analysis was based. The approximate number of respondents in the nonsignificant cells is given below the tables or may be approximated from the numbers that are given in

TABLE 4.3

NUMBER AND PERCENTAGE OF STABLE AND MOBILE OCCUPATIONAL EDUCATORS BY TYPE OF SCHOOL

Mobility Group	Type of School					
	High school		Specialized vocational school		College	
	Number	Percent	Number	Percent	Number	Percent
Stable educators	446	64.5	693	66.0	719	68.7
Mobile educators	245	35.5	357	34.0	328	31.3
Totals	691	100.0	1050	100.0	1047	100.0

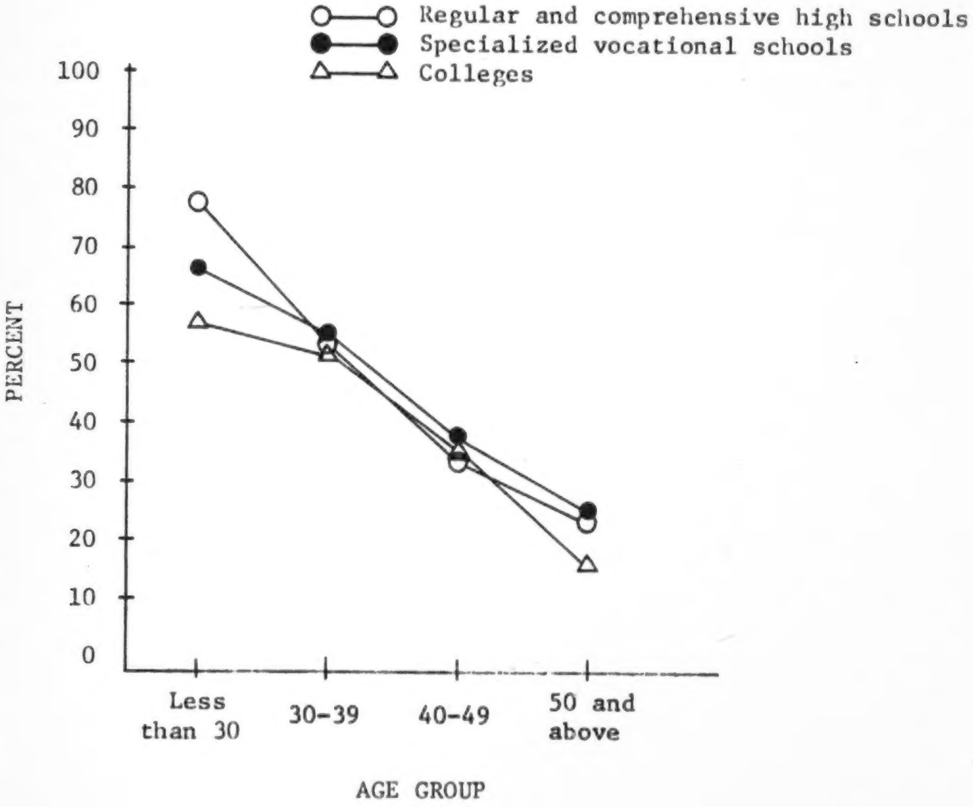
significant cells above or below the cell in question. Chi-square tests are most accurate when used with large numbers, but, as was already noted, a smaller difference is required to produce a high level of significance when large sample sizes are being tested than when small sample sizes are being utilized.

The following format is utilized in discussing the chi-square results in the ensuing pages: (1) related variables are grouped into the same table and are discussed as a group; (2) supporting tables or graphs are presented only where the cross tabulation shows an especially interesting relationship or where the direction of the relationship is inverse to that which was predicted on pages 90-92. It should be noted that predictions were not made on all the variables that were analyzed.

Childhood and Demographic Variables

Table 4.4 shows the results of the chi-square tests of selected childhood and demographic variables with the mobility variable. Of immediate interest is the similarity of results for the occupational educators in vocational schools and colleges. Whether the high school educator group showed fewer significant levels because of a smaller population or because they were in some way different from the other two groups was not revealed by the analysis.

As shown in Table 4.4, age is the only variable in this group to show a highly significant lack of independence from the mobility variable in all three school types. The relationship between the two variables is nearly linear in all schools as revealed in Graph 4.1. Of all variables tested, age showed the greatest range for the mobility variable and would appear to be the variable which is the best single predictor of mobility.



GRAPH 4.1. Percent of educators who were mobile in each school type in relation to the age of the respondents. Source: Appendix A, Table 3.

TABLE 4.4

SELECTED DEMOGRAPHIC AND CHILDHOOD VARIABLES COMPARED WITH THE MOBILITY VARIABLE BY SCHOOL TYPE

(χ^2 Significance Values)[1]

Variable	Type Of School		
	High School	Vocational School	College
1.[2] Sex	--[3]	--	--
2. Age	** 677	** 1017	** 1023
3. Race	--	--	--
4. Marital Status	--	* 984	** 993
5. Number of children at home - secondary school age and below	--	--	--
6. Size of childhood home community	--	--	--
7. Enrollment of high school attended	--	--	--
8. Father's education	--	** 901	** 925
9. Father's socioeconomic status (Duncan)	--	** 972	** 984
10. Father's occupation (blue collar, white collar, farm)	--	** 931	* 953
11. Mother's education	--	--	** 918
12. Nonprofessional organization memberships	--	--	--

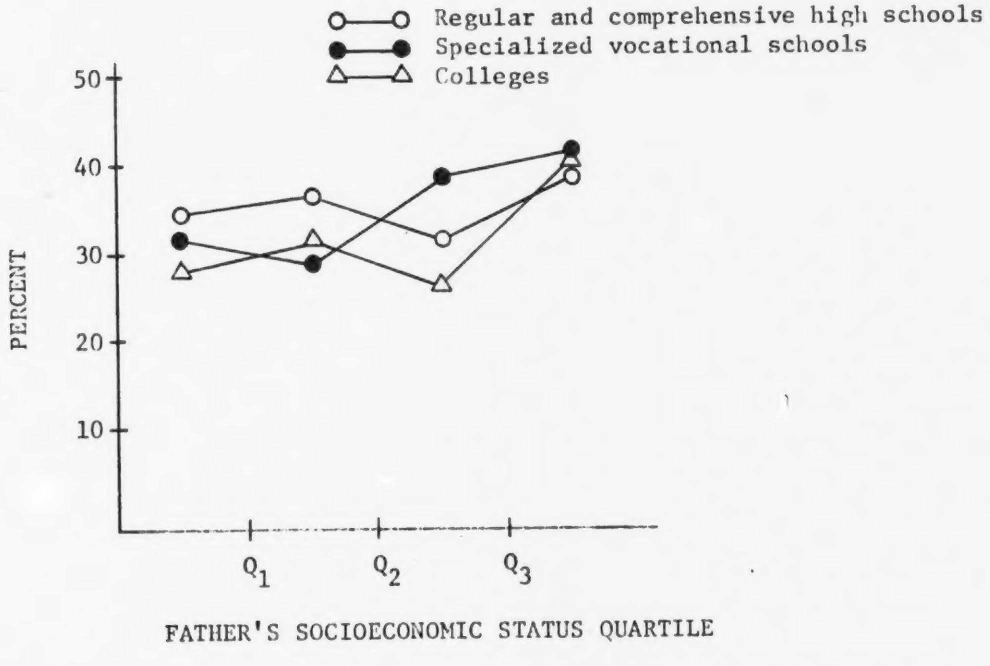
[1] * = < .05 probability level; ** < .01 probability level.

[2] Numbering of variables corresponds to numbering scheme in Appendix B.

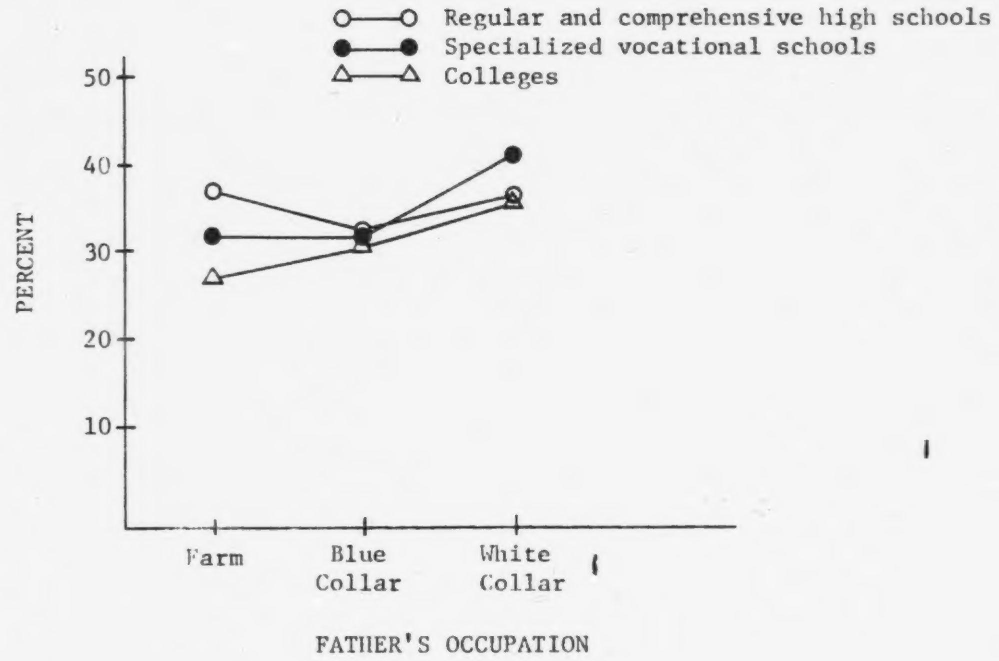
[3] The approximate number of entries for the nonsignificant variables was 625 for high schools and 975 for each of the other two types of schools.

The significance of the marital status variable was in the direction predicted, i.e., married educators tended to be more stable than their single counterparts. However, age may have been an influential factor since age was not held constant in the analysis.

The remaining four variables which were significant in one or more schools are all variables that are related to the socioeconomic background of the respondents: father's education, father's socioeconomic status, father's occupation, and mother's education. Although the relationship exhibited in the cross tabulation of these variables were all in the direction predicted, i.e., more mobility was evidenced among persons who had a higher socioeconomic background, as a whole, the relationships were not linear as shown in Graphs 4.2 and 4.3.



GRAPH 4.2. Percent of educators who were mobile in each school type in relation to father's socioeconomic status. Source: Appendix A, Table 4.



GRAPH 4.3. Percent of educators who were mobile in each school type in relation to father's occupational group. Source: Appendix A, Table 5.

Geographic Variables

Table 4.5 shows the results of the chi-square significance tests when comparing the mobility variable with selected geographic variables. The five "distance" variables, i.e., numbers 13, 14, 18, 19, and 21, were each significant in at least two of the three school groups. The composite picture suggested by these five variables is that a person working near his home town, near his spouse's home town, near his parents or his spouse's parents, or near his previous job is less likely to express a desire to move than one who lives a greater distance from his home, parents, or previous job. Graph 4.4 illustrates the distribution of the mobile educators in the three types of schools when comparing the mobility variable with the distance that the respondent's

TABLE 4.5

SELECTED GEOGRAPHIC VARIABLES COMPARED WITH THE MOBILITY VARIABLE BY SCHOOL TYPE

(χ^2 Significance Values)[1]

Variable	Type Of School		
	High School	Vocational School	College
13.[2] Distance from current job to home community of youth	--[3]	** 954	** 977
14. Distance from current job to spouse's home community	** 561	--	** 881
15. Region of the country	* 691	** 1050	--
16. Size and type of community in which school is located	* 685	--	--
17. Size of community of last job compared to size of present community	--	--	* 981
18. Distance from parents	* 566	* 814	** 790
19. Distance from spouse's parents	* 468	--	** 653
20. Population density of state per square mile	* 691	* 1050	--
21. Distance from previous job	--	* 989	** 992
22. Interstate mobility	--	** 965	** 975

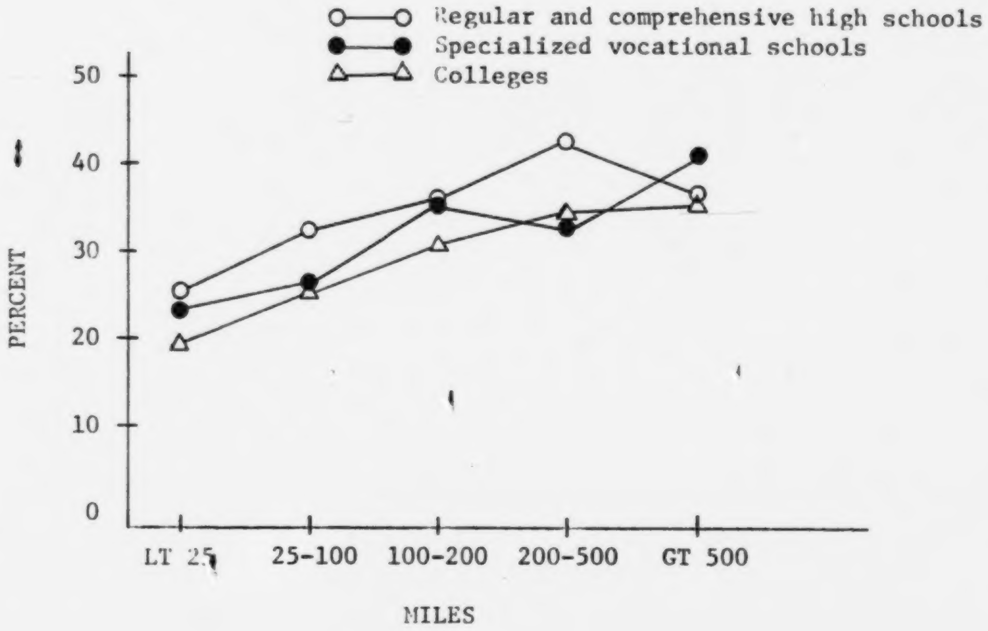
---

[1] * = < .05 probability level; ** < .01 probability level.

[2] Numbering of variables corresponds to numbering scheme in Appendix B.

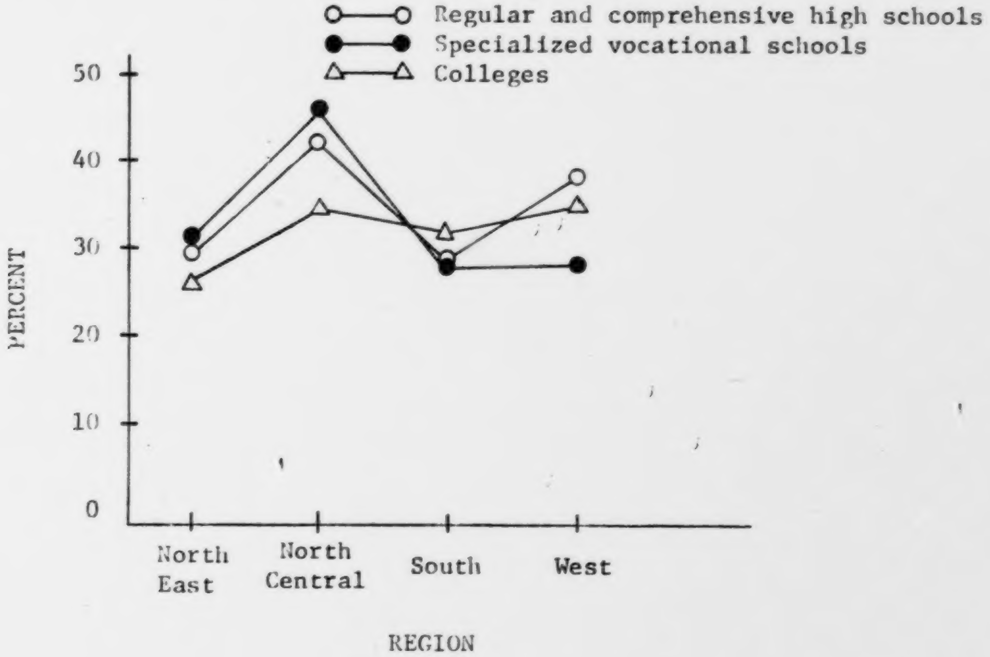
[3] The approximate number of entries for the nonsignificant variables was 625 for high schools and 975 for each of the other two types of schools.

current job is from his home community. The relationship shown in this graph is similar to that shown by the other four "distance" variables.



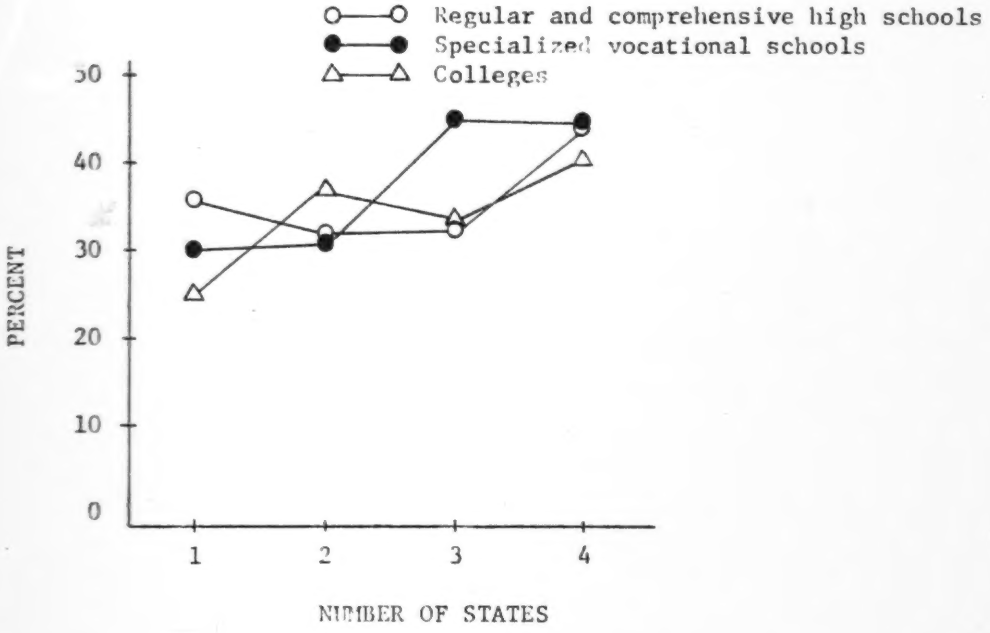
GRAPH 4.4. Percent of educators who were mobile in each school type by distance current job is from respondent's home town. Source: Appendix A, Table 6.

While differences in the mobility of occupational educators in the different regions of the country may not be of interest to the local administrator, they may be of interest to those individuals who study the movement of occupational educators on a regional or national scale. In Chapter II, the greatest employment mobility was hypothesized to be in the West and South since these two regions are currently experiencing the greatest population growth. The data, however, revealed a somewhat different picture in which the highest percentage of respondents classified as mobile, came from the North Central region in two of the three school categories. The South was lowest or next to the lowest in all three school categories as can be seen in Graph 4.5. The differential in the rate of expansion of vocational programs in various states was not taken into consideration and may have been a major factor in skewing the mobility rates across the regions.



GRAPH 4.5. Percent of educators who were mobile in each school type by region of the country. Source: Appendix A, Table 7.

The last variable in this group which showed a high level of significance in interstate mobility (variable 22). This variable utilized a measure of past geographic mobility as a discriminator between the stable and mobile groups. The raw data contained the number codes of the states in which (1) the respondent was currently working, (2) the respondent worked just prior to his present job, (3) the respondent grew up, (4) the respondent received his undergraduate education. For the variable under discussion, the number of states represented by the four locations was determined. Thus, the range of values ran from 1, meaning that all four activities occurred in one state, to 4, meaning that the four activities occurred in four different states. Persons who demonstrated the greatest geographic mobility as measured by this variable were expected to be more mobile in the future than those who had had little interstate mobility in the past. The chi-square tests were significant beyond the .01 level of probability in two of the three school groups. Graph 4.6 shows the percentage of mobile educators in each school type in relation to the "Interstate mobility" variable. The graph shows that the relationship between the two variables was nonlinear in all three schools although the general trend was that persons who have been geographically mobile in the past may be expected to be somewhat more likely to change school systems in the future.



GRAPH 4.6. Percent of educators who were mobile in each school type in relation to past geographic mobility (variable 22). Source: Appendix A, Table 8.

Variables Related to Previous Education

The nine variables that measure the respondents' previous educational experiences are compared with the mobility variable in Table 4.6. The results of the chi-square analysis reveal that only one of the seven variables showed a high lack of independence from the mobility variable. This variable, educational attainment, is plotted on Graph 4.7. As predicted in Chapter II, individuals with higher educational attainment tended to be more mobile. The rather bizarre configuration of the high school group resulted in part because only seven high school occupational educators were in the associate and 3-year degree category. Hence, a difference in only two people was all that was needed to produce the unusually high value for that cell. A similar phenomenon occurred in the high school graduate category for college educators. Only 15 of the college educators had had no education beyond high school graduation, and all of them were classified as "stable" educators, thus accounting for no mobile educators in that cell. The instability of these two small cells, however, does not account for all the variation shown. The specialized vocational school group and the college group have similar configurations on the graph. Much more independence is shown between the two variables for the high school group. Perhaps the high school educators with less education are also younger, and the effect of educational attainment on mobility may be counterbalanced by the influence of age on mobility.

The variables which showed no significant difference when compared with the mobility variable are of interest as well. The chi-square analysis suggests that the mobility variable was independent of (1) the respondents' high school and undergraduate majors as defined herein, (2) the methods by which the teachers acquired their teaching and vocational skills, (3) the number of hours that counselors had in counseling and vocational counseling, and (4) the time in the respondent's life when he decided to enter occupational education.

TABLE 4.6

VARIABLES RELATED TO PREVIOUS EDUCATION COMPARED WITH THE MOBILITY VARIABLE BY SCHOOL TYPE

(χ^2 Significance Values)[1]

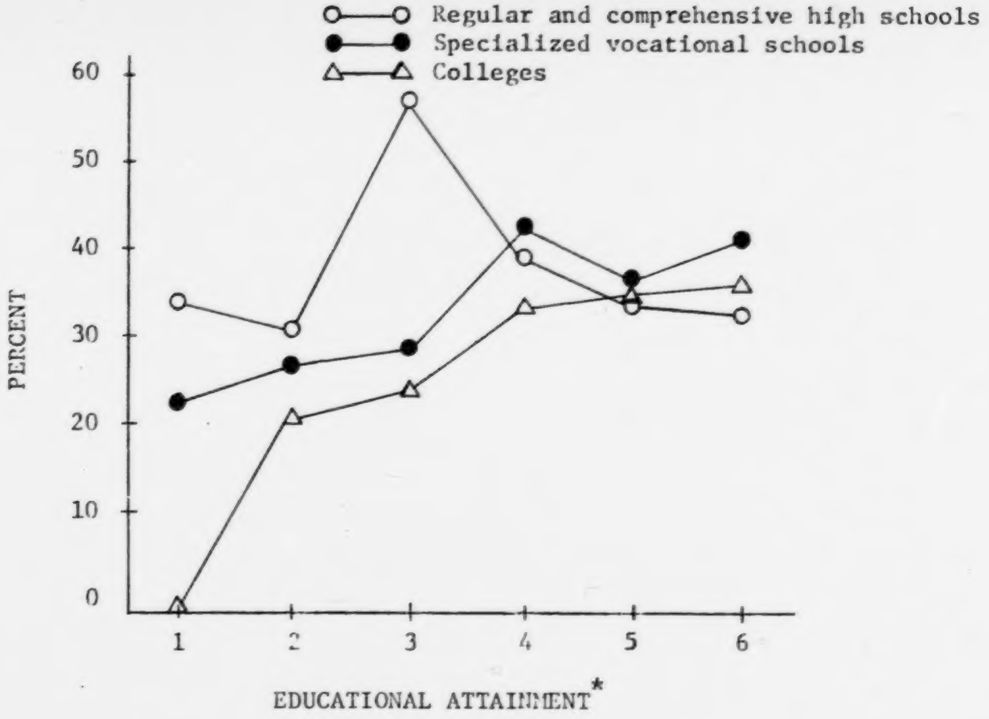
Variable	Type Of School		
	High School	Vocational School	College
23.[2] High school major	--[3]	--	--
24. Undergraduate major: teaching, nonteaching	--	--	--
26. Educational attainment of respondent	--	** 1042	** 1045
27. Method of teacher preparation (teachers only)	--	* 823	--
28. Method of vocational skill acquisition: in school, not in school (teachers only)	--	--	--
29. Method of vocational skill acquisition: in school, cooperative program, not in school	--	--	--
30. Number of credit hours earned in counseling (counselors only)	--	--	--
31. Number of credit hours earned in vocational counseling (counselors only)	--	--	--
32. When choice was made to enter occupational education	--	--	--

---

[1] * = < .05 probability level; ** < .01 probability level.

[2] Numbering of variables corresponds to numbering scheme in Appendix B.

[3] The approximate number of entries for the nonsignificant variables was 625 for high schools and 975 for each of the other two types of schools. The number of counselors entered in variables 30 and 31 were, reading from the left, 65, 46, and 33.



*1. High school graduate
2. Some post-secondary education but no degree
3. Associate and three-year degrees
4. Bachelor's degree
5. Master's degree
6. Six-year degree or doctorate

GRAPH 4.7. Percent of educators who were mobile in each school type in relation to educational attainment of the respondents. Source: Appendix A, Table 9.

Work-Related Variables

Ten work-related variables were compared with the mobility variable. The results of the chi-square analysis in Table 4.7 show four variables that lacked independence from the mobility variable in all three school groups. Tenure status, years in current school system, and years in current position are measuring similar and, one suspects, highly correlated elements. These three variables and adjusted monthly income (see Appendix D for the calculation of

TABLE 4.7

SELECTED WORK-RELATED VARIABLES COMPARED WITH THE MOBILITY VARIABLE BY SCHOOL TYPE

(χ^2 Significance Values)[1]

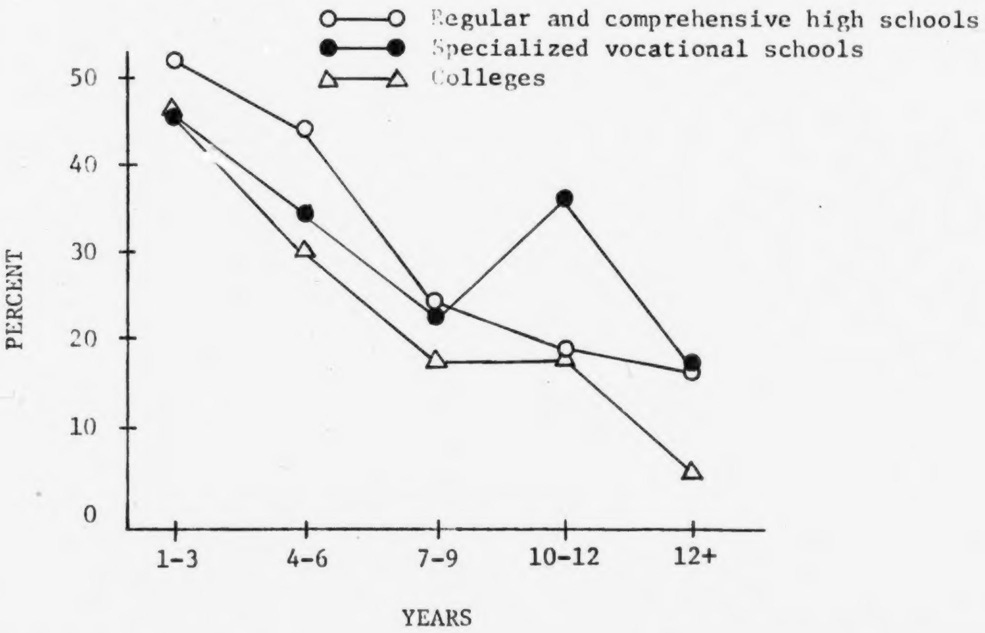
Variable	Type of School		
	High School	Vocational School	College
33.[2] Tenure status	** 670	** 1008	** 1011
34. Adjusted monthly income	** 679	** 1032	** 1031
35. Years in current school system	** 636	** 986	** 973
36. Years in current position	** 644	** 986	** 982
37. Average (mean) class size (teachers only)	--[3]	--	--
38. Number of assigned counselees (counselors only)	--	--	--
39. Number of contact hours per week with students (teachers only)	--	--	--
40. Reason for taking current educational employment	--	--	--
41. Full-time equivalent enrollment in vocational program	--	--	** 1040
42. Full-time equivalent enrollment of school	* 685	--	--

[1] * = < .05 probability level; ** < .01 probability level.

[2] Numbering of variables corresponds to numbering scheme in Appendix B.

[3] The approximate number of entries for the nonsignificant variables was 625 for high schools and 975 for each of the other two types of schools except for variables 37 and 39 which had about 560, 890, and 950 entries, and variable 38 which had about 65, 46, and 33 entries, reading from the left.

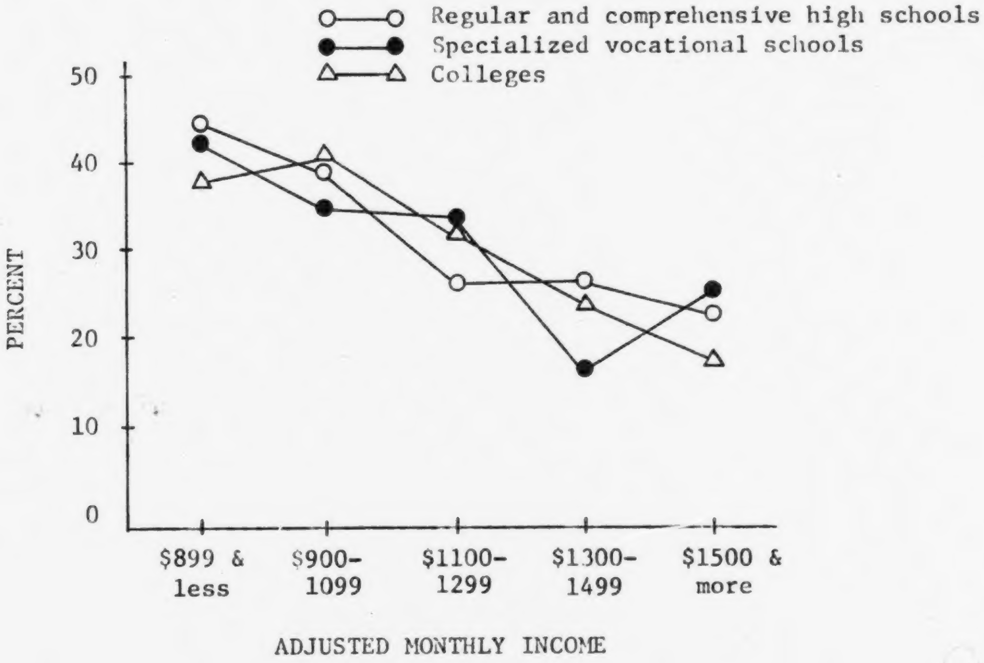
adjusted monthly income) would seem to be functions of age as well, i.e., the older one is, the more chance he has had to have been in a system longer, and the more likely he is to be drawing a higher salary. These results supported the predictions based on the review of literature. The relationship between years in a system and the mobility variable is shown graphically in Graph 4.8, while the cross-tabulation of adjusted monthly income and mobility are shown in Graph 4.9.



GRAPH 4.8. Percent of educators who were mobile in each school type in relation to the number of years the respondent had been in his respective school system. Source: Appendix A, Table 10.

The information plotted in Graph 4.8 and shown in Table 10 of Appendix A indicates a strong inverse relationship between intended employment mobility and the number of years one has been in a school system. While this information is not of much value to the local administrator who is hiring new personnel, it may be of interest to the student of occupational mobility.

In the summary of Chapter II, an anticipated inverse relationship was suggested between teaching and counseling load and employment mobility. According to the chi-square analysis, however, both of these variables seemed relatively independent of the mobility variable. An independent relationship was also found between the mobility variable and the reason -- personal, not job-related; work environment related; and intrinsic, job-related -- given by the respondent for taking his current job.



GRAPH 4.9. Percent of educators who were mobile in each school type in relation to the adjusted monthly income. Source: Appendix A, Table 11.

The size of school was also expected to be inversely related to employment mobility. Each of the two measures of school size (variables 41 and 42) was significantly related to the mobility variable in one of the three school types, but no consistent, linear pattern was distinguishable.

Previous Employment Variables

The significance test results of the eight previous employment variables are shown in Table 4.8. The responses on only one variable -- reason for leaving the previous job -- appeared to be independent of the responses on the mobility variable in all three types of schools.

Variables 43, 44, 45, 46, and 47 are all, to a degree, related to age. As a whole, these variables showed significant inverse relationships with the mobility variable, i.e., the higher or greater the value of the variable, the less likely the respondent was to be classified as mobile. Variable 46, average length of past educational jobs, would be a function of age for those educators who changed jobs more frequently at a younger age and stayed longer with the school systems as he or she grew older. The same variable, however, would not be a function of age for those educators who, in spite of their age, have not stayed with an educational job for any length of time, and for those who, in spite of their age, have stayed in all their educational jobs for only long periods of time. For this analysis, however, no attempt was made to distinguish among the types of work histories. The relationship of the respondents' mobility classification to the average length of their previous educational jobs is shown in Graph 4.10. This graph demonstrates a strong, linear relationship between the two variables. This information should be of some value to the local administrator although further analysis should be undertaken to determine the influence of age on this relationship.

A change in enrollment from the respondent's previous school to his current school proved to have a highly significant relationship with the mobility variable for all three school groups. Graph 4.11 illustrates this interesting relationship which suggests that individuals who move from a larger system to a smaller system will tend to want to leave that employment sooner than those

TABLE 4.8

SELECTED VARIABLES RELATED TO PREVIOUS EMPLOYMENT COMPARED WITH THE MOBILITY VARIABLE BY SCHOOL TYPE

(χ^2 Significance Values)[1]

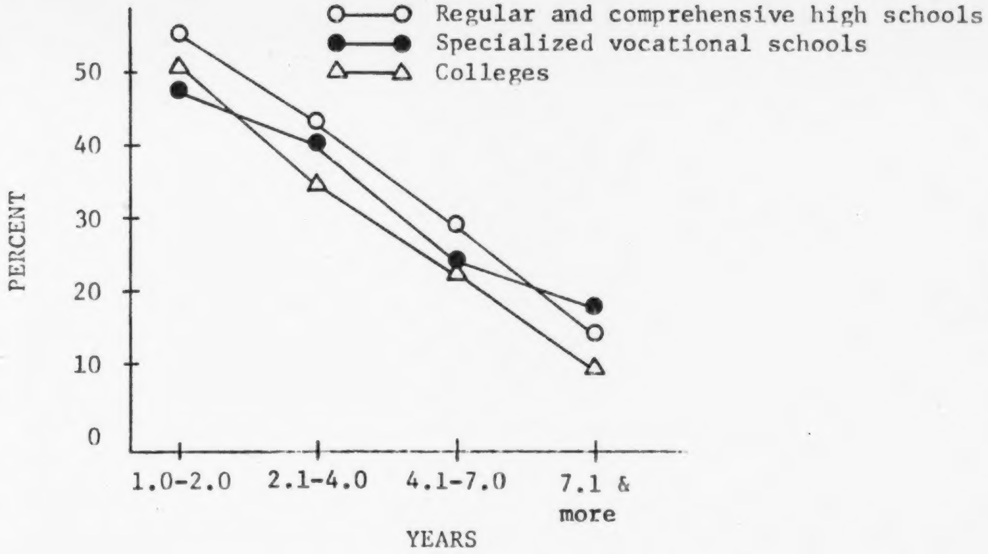
Variable	Type Of School		
	High School	Vocational School	College
43.[2] Years of full-time noneducational work	--[3]	** 899	** 893
44. Years since related noneducational work	** 460	** 840	** 833
45. Years in educational employment	** 642	** 954	** 977
46. Average length of educational jobs	** 642	** 953	** 974
47. Years in occupational education	** 564	** 967	** 946
48. Change in enrollments, past school to present school	** 690	** 1039	** 1042
49. Reasons for leaving previous job	--	--	--
50. Career sequence prior to entering occupational education employment	--	** 956	** 979

---

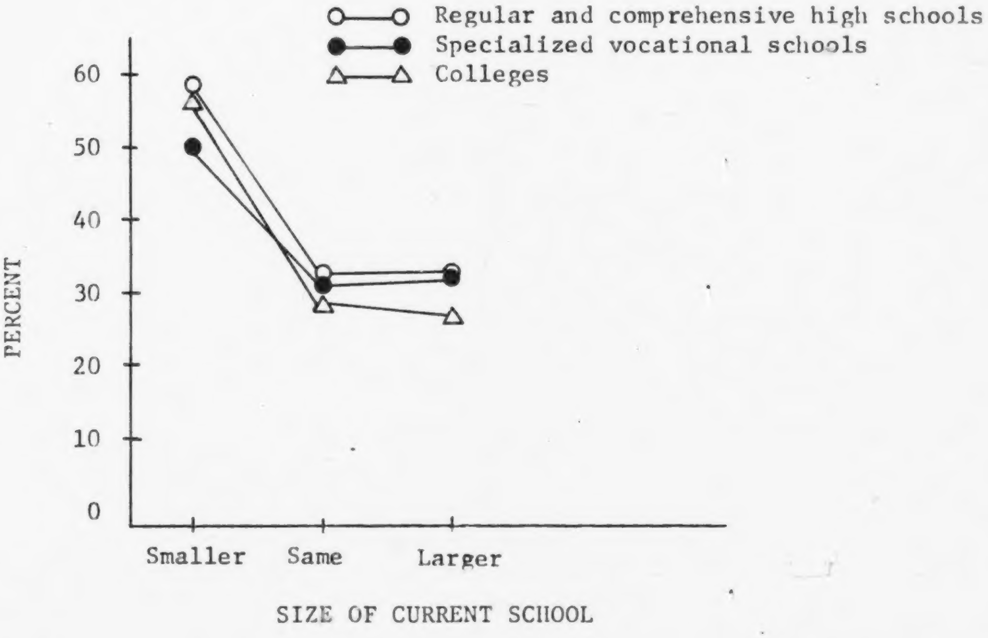
[1] * = < .05 probability level; ** < .01 probability level.

[2] Numbering of variables corresponds to numbering scheme in Appendix B.

[3] The approximate number of entries for the nonsignificant variables was 625 for high schools and 975 for each of the other two types of schools.



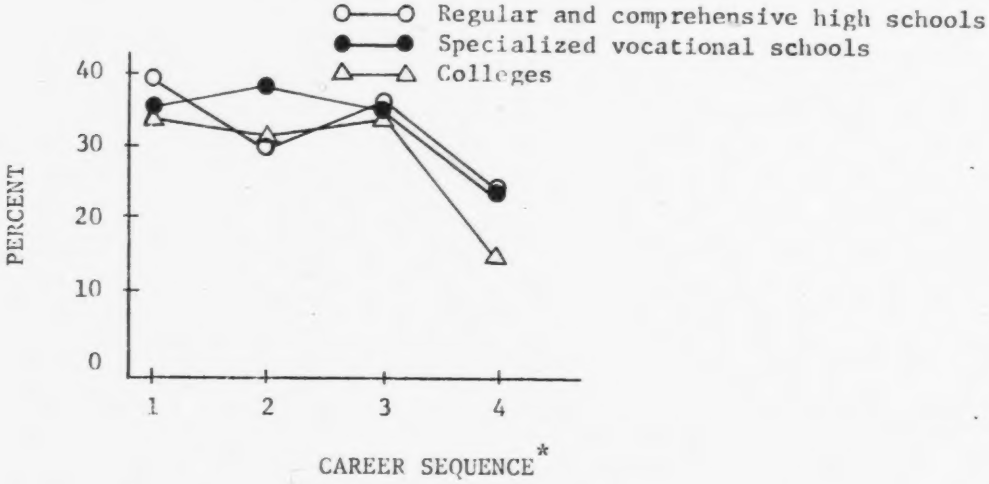
GRAPH 4.10. Percent of educators who were mobile in each school type in relation to average length of past educational jobs. Source: Appendix A, Table 12.



GRAPH 4.11. Percent of educators who were mobile in each school type in relation to the change in school enrollment from respondent's last job to his current job. Source: Appendix A, Table 13.

who move to a school of a size equal to or larger than their previous school. Whether salary is an influencing factor in this relationship is not clear, i.e., if pay scales are lower in smaller schools, an individual who has for some reason moved from a larger system to a smaller one, may be especially anxious to return to a larger system. This hypothesis was not tested.

The last variable in this list also proved to be highly significant in two of the three types of schools. This variable was designed to summarize the career sequence of the respondents prior to their entering vocational education employment. The relationship between this variable and the mobility variable is shown in Graph 4.12. The graph shows that persons who had no formal education



*1. Formal education ——► occupational education
2. Formal education ——► work ——► occupational education
3. Work ——► formal education ——► occupational education, also patterns with many alternations
4. Work ——► occupational education

GRAPH 4.12. Percent of educators who were mobile in each school type in relation to career sequence prior to entering occupational education. Source: Appendix A, Table 14.

prior to employment as an occupational educator tend to be more stable than those who had formal education before entering occupational education. The other three career patterns appear to have somewhat similar configurations, and do not show much variation with the mobility variable.

Variables Related to Professional Identity and Educational Plans

The comparisons of the mobility variable and the variables related to professional identity and educational plans are reported in Table 4.9. Two expectations were noted in Chapter II regarding variables in this group. An inverse relationship was anticipated between employment mobility and professional identity and attachment (p. 91), and a positive relationship was expected between employment mobility and educational activity (p. 91).

Three types of data were utilized to test the relationships between employment mobility and the two related variables: professional identity and occupational attachment. These types of data were: (1) identity group of respondent, (2) the respondent's friends or associates, and (3) the organizations to which the respondent belonged. Little support was found for a relationship between these data and the mobility variable.

As noted in Table 4.9, one (number 52) of the five variables in this group approached significance, but as shown in Graph 4.13, the relationship was not what had been anticipated. In two school types, a smaller proportion of the educators who associated with people outside of education tended to be mobile than was true for those who associated more with friends inside education. A possible explanation is that persons who are well established in the community would have many friends outside the school and would also tend to be more stable. But, the differences in Graph 4.13 were not large and one should be cautious about making too much of an issue from the analysis. Additional research is

TABLE 4.9

VARIABLES RELATED TO PROFESSIONAL IDENTITY AND EDUCATIONAL PLANS COMPARED WITH THE MOBILITY VARIABLE BY SCHOOL TYPE

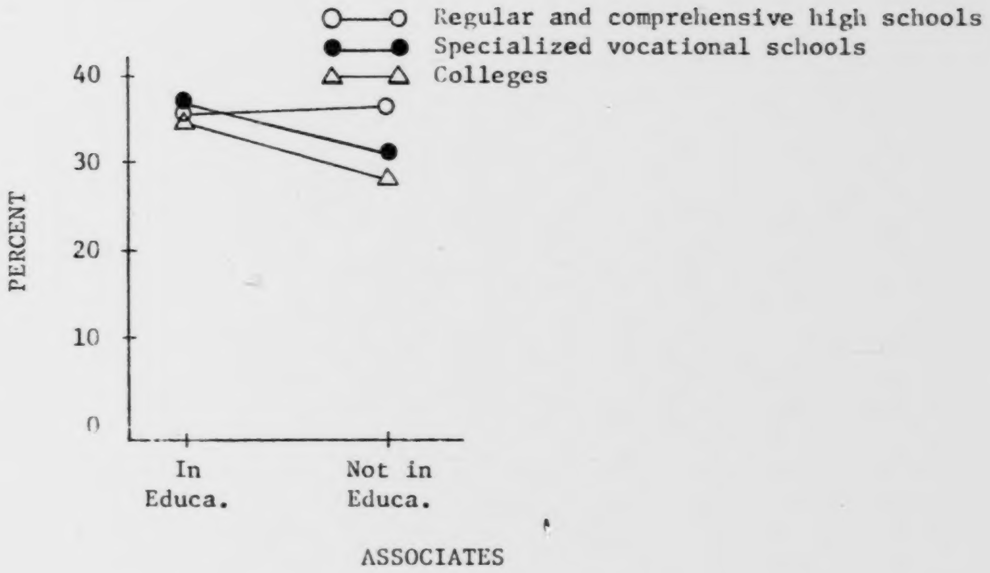
(χ^2 Significance Values)[1]

Variable	Type Of School		
	High School	Vocational School	College
51.[2] Group with which respondent identifies	--[3]	--	--
52. Persons with whom respondent associates	--	(.052) 998	(.06) 991
53. Number of vocational association memberships	--	--	--
54. Number of professional education association memberships	--	--	--
55. Number of professional association memberships	--	--	--
56. Current educational activity	--	** 1019	** 1032
57. Educational orientation (past, present, and anticipated educational activity)	--	* 1033	--

[1] * = < .05 probability level; ** < .01 probability level.

[2] Numbering of variables corresponds to numbering scheme in Appendix B.

[3] The approximate number of entries for the nonsignificant variables was 625 for high schools and 975 for each of the other two types of schools.

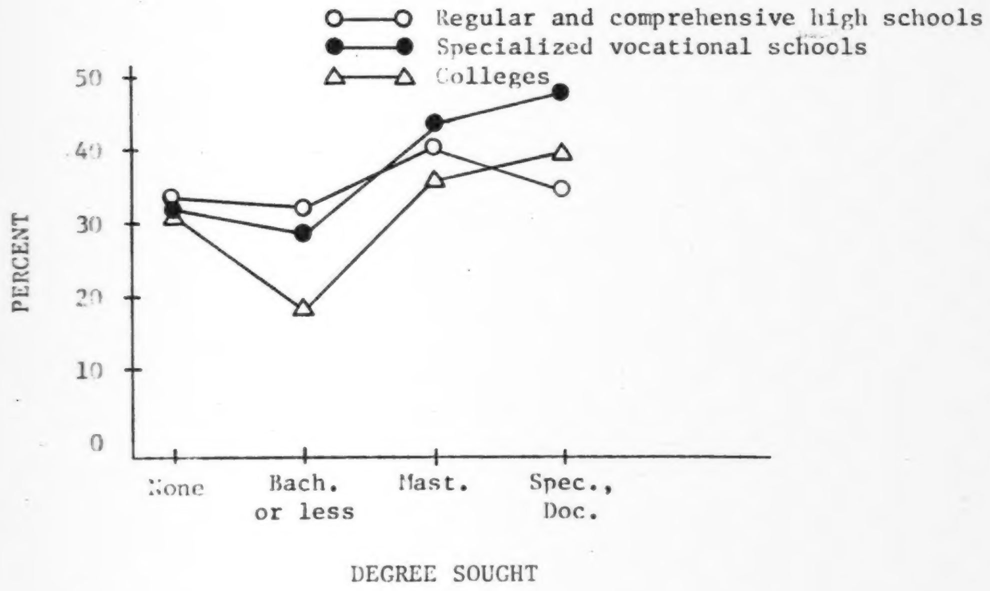


GRAPH 4.13. Percent of educators who were mobile in each school type in relation to the respondent's choice of associates. Source: Appendix A, Table 15.

needed to explain more fully what the relationship is between this variable and employment mobility.

In regard to occupational identification, the data revealed that persons who identified more with others outside education tended to be more mobile than those who identified with other educators. But this difference did not approach significance. The cross-tabulation of organization memberships and mobility produced no consistent patterns.

The comparison of current educational activity and employment mobility was highly significant in two types of schools. The relationships are shown in Graph 4.14. A review of the data suggests that those pursuing further education are somewhat more likely to be mobile in the near future. This generalization, however, was not true for those who were working toward a bachelor's degree, especially for those employed in the colleges in the study.



GRAPH 4.14. Percent of educators who were mobile in each school type in relation to the degree sought by the respondent. Source: Appendix A, Table 16.

These patterns suggest that the purpose for which one completes his baccalaureate degree after being employed is different from the reasons for which one gets an advanced degree. For example, one may get or be required to complete a baccalaureate degree to maintain his position while the person seeking an advanced degree may be doing so more often for the purpose of preparing for more advanced or a different type of employment. Another possible explanation is that persons who have not completed their baccalaureate degrees are more likely to be local citizens with strong community ties, while those working toward advanced degrees may be more mobile, upward bound individuals.

The final variable that was analyzed in this group was an "educational orientation" variable which was designed to take into consideration past, present, and future educational activity. Although a significant relationship was found in one of the school groups, no consistent pattern was found in any of the three.

Chi-Square Analysis by Area of Specialization

In this phase of the analysis, the mobility variable was compared with the other independent variables for each specialty group. The variables being tested in this section are the same as those in the previous section and are described in Appendix B. The areas of specialization as listed on pages 96 and 97, and defined in Appendices B and D are:

1. Applied biological and agricultural occupations
2. Business, marketing, and management occupations
3. Health occupations
4. Technical occupations
5. Trade and industrial oriented occupations
6. Personal and public service occupations
7. Vocational counseling
8. Total program administration and coordination
9. Related curriculum instruction

The assumption is made that analysis by areas of specialization is more refined than analysis by school type on the basis that each specialization group is more homogenous than is each school type group. The problems with both types of redistribution were discussed in an early section of this chapter and will not be reconsidered here except to note that the sizes of the groups (1) are, with one exception, smaller than those of the three school types (see Table 4.2 for the distribution by area of specialization), and, (2) as a result of the smaller size, chi-square significance depends on a greater proportional difference.

The format for reporting the results is the same as in the previous section with one exception: to avoid confusion, not more than five areas of specialization are shown on any one graph. Cells with fewer than five persons are not shown on the graphs because of the distortion which is often introduced by small frequencies. Tables which include information on all specialty areas not shown on the graphs are presented in Appendix A.

The distribution of the mobility variable across the nine areas of specialization is shown in Table 4.10. The differences among the various groups is of particular interest. Since age appeared to be the most reliable predictor of mobility in the previous analysis, a simple rank order comparison was done between the mobility variable and the proportion of educators under forty years of age.

TABLE 4.10

DISTRIBUTION OF MOBILITY VARIABLE AMONG THE NINE AREAS OF SPECIALIZATION

Area of Specialization	Mobility Group				Total Number
	Stable		Mobile		
	Number	Percent	Number	Percent	
Applied biological and agriculture	77	64.7	42	35.3	119[1]
Business, marketing, and management	310	61.9	191	38.1	501
Health	221	65.4	117	34.6	338
Technical	79	71.2	32	28.8	111
Trade and industrial	701	69.1	314	30.9	1015
Personal and public service	153	64.0	86	36.0	239
Vocational counseling	97	65.1	52	34.9	149
Total program administration	164	71.0	67	29.0	231
Related curriculum	49	66.2	25	33.8	74
Totals	1851	66.6	926	33.4	2777

[1] These totals may differ in the tables that follow since the number in any one table is dependent on the number of subjects who furnished usable responses for both variables being considered.

This comparison is shown in Table 4.11. If the rankings are grouped into thirds, no rankings cross the division lines, again suggesting a strong relationship between age and mobility. However, a multivariate technique is necessary to provide a more accurate picture of the contribution of age in this analysis.

TABLE 4.11

RANK ORDER COMPARISON BETWEEN THE PERCENTS OF MOBILE EDUCATORS AND THE PERCENT OF EDUCATORS UNDER FORTY YEARS OF AGE BY AREA OF SPECIALIZATION

Area of Specialization	Mobility Rank Order	Age Rank Order[1]
Business, marketing, and management	1	3
Personal and public service	2	2
Applied biological and agriculture	3	1
Vocational counseling	4	6
Health	5	5
Related curriculum	6	4
Trade and industrial	7	7
Total program administrator	8	9
Technical	9	8

[1] Percent of educators under forty years of age. Source: Appendix A, Table 17.

Childhood and Demographic Variables

The results of the chi-square analysis of selected childhood and demographic variables with the mobility variable are shown in Table 4.12.

Again, age stands out as the variable which shows the most overall significance. However, the lack of significance in the analysis of the related curriculum group suggests that some over-riding factor or factors are present in this group. Whether this result reflects a dissatisfaction on the part of many

TABLE 4.12

SELECTED DEMOGRAPHIC AND CHILDHOOD VARIABLES COMPARED WITH THE MOBILITY VARIABLE BY AREAS OF SPECIALIZATION

(χ^2 Significance Values)[1]

Variable	Field Of Specialization[2]								
	Agri.	Bus.	Health	Tech.	T & I	P Serv	Couns.	Admin.	Rel Cur
1.[3] Sex	NC[4]	--	--	NC	--	--	--	--	--
2. Age	** 116	** 490	** 332	** 111	** 977	** 231	** 147	** 228	--
3. Race	NC	--	NC	NC	--	--	--	NC	NC
4. Marital status	--	--	* 323	NC	--	--	--	--	--
5. Number of children at home	* 115	--	** 322	--	--	--	--	--	--
6. Size of childhood home community	--	--	--	* 106	--	--	--	(.053)218	--
7. Enrollment of high school attended	--	* 480	--	--	--	--	--	--	--
8. Father's education	* 109	--	** 309	--	* 839	* 213	* 139	--	--
9. Father's socioeconomic status	--	--	--	--	--	--	--	--	* 73
10. Father's occupation	--	--	--	--	--	--	* 135	--	* 68
11. Mother's education	--	--	** 305	--	--	** 215	--	--	--
12. Nonprofessional organization memberships	--	--	--	--	--	--	--	--	--

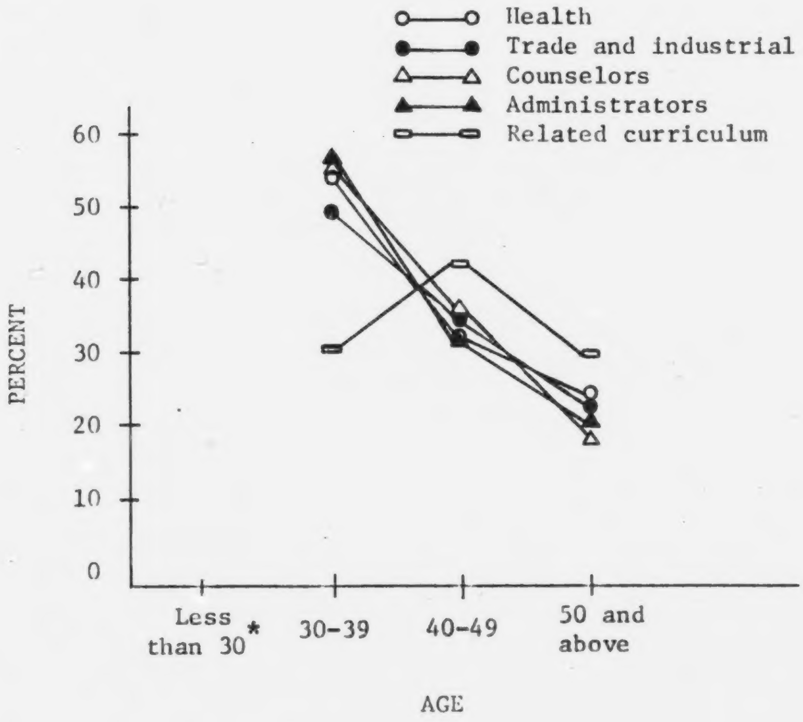
[1] * = < .05 probability level; ** < .01 probability level.

[2] See page 96 for full names of the areas.

[3] Numbering of the variables corresponds to numbering scheme in Appendix B.

[4] Not calculated, insufficient cell frequencies.

of the middle-aged group or some other intervening factor needs further study. Graph 4.15 shows the percent of mobile educators in the different age groups for five areas of specialization: health educators, trade and industrial educators, counselors, administrators, and related curriculum instructors. The health education group was chosen because it is predominantly female (88.6 percent). The trade and industrial group is predominantly male (97.2 percent) and is also the largest group of the nine. Administrators and counselors were included since their jobs represented different functions from the others.



GRAPH 4.15. Percent of educators who were mobile in different age groups in five areas of specialization. Source: Appendix A, Table 17.

*Fewer than five individuals were in all cells in the "under 30" category.

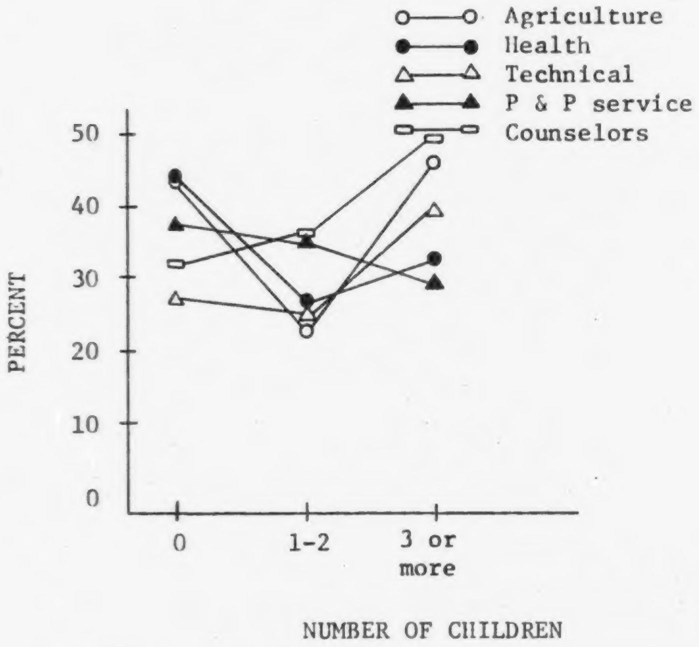
The similarity among all but the related curriculum instructors is striking. Differences in sex and function seemingly made little difference among the other four groups shown as well as for the four categories not shown (see Appendix A, Table 17).

No consistent pattern was detected when examining the sex variable: of those areas of specialization in which adequate numbers of both men and women worked, in only one case were men more mobile by more than a 5 percent difference, and in two cases women were more mobile by more than a 5 percent difference. None of the differences, however, approached significance.

The analysis of racial background had similar results to that of sex. Only four areas had at least five individuals in each cell of the two by two tables. In these four, whites were more mobile by 5.8 percent in personal and public service education; nonwhites were more mobile by 13.9 percent in business, marketing, and management education; nonwhites were more mobile by 23.7 percent in counseling; and, in trade and industrial education, a 1 percent difference separated the two groups. Although the differences were great in two areas, they were not sufficient to result in significance because of the small number of cases.

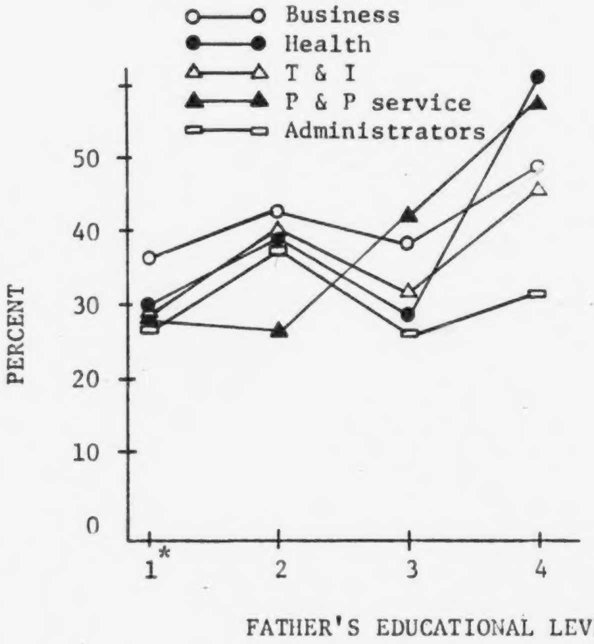
In Chapter II, the expectation was stated that nonwhites and females would be less mobile than whites and males, respectively (pp. 90-1). The evidence in the study did not conclusively support these generalizations, and in several of the tables, the number of cases was insufficient for a meaningful test of significance.

Marital status proved to be related to mobility in the direction anticipated in all nine areas but was significant beyond the .05 probability level in only one case. The number of children at home who were secondary school age and below did not appear to have the effect on the mobility variable that was anticipated. The five areas which showed the most interval variance are shown on Graph 4.16. The graph illustrates the three relationships: inverse, positive, and curvilinear. Obviously, some other variable or variables are intervening for some groups although no clues as to their identity are apparent in this analysis. The category for no children at home includes both the young workers who have no family or are not married as well as the older educators whose children have already left home. Holding age constant on such an analysis might provide some help in determining what is occurring here. Neither of the two variables, size of childhood home community and enrollment of high school attended, revealed any consistent or linear relationship when compared with the mobility variable in the nine areas.



GRAPH 4.16. Percent of educators who were mobile compared with number of children at home of secondary school age and below, by area of specialization. Source: Appendix A, Table 18.

Father's education, as one indicator of the social class background of individuals, was significantly related to mobility in five of the nine areas. Since the analysis was done originally with five levels of education, several of the tables suffered from low frequencies in some cells as indicated in Appendix A, Table 19. Graph 4.17 shows the relationship between father's education and the mobility variable for the five largest groups. The two highest levels of education were combined in the graph in order to increase the cell size. The relationship and significance shown between the two variables



*1. Less than high school graduate
2. High school graduate
3. Post-secondary but less than baccalaureate
4. Baccalaureate or graduate degree

GRAPH 4.17. Percent of educators who were mobile in five areas of specialization, according to their father's educational attainment. Source: Appendix A, Table 19.

for the two groups which are predominantly female is as strong or stronger than that for the other areas which are predominantly male or mixed. The two groups that were predominantly female are health and personal and public service.

The effect of age on the distribution in Graph 4.17 is not totally clear. Administrators, the oldest group, appear to be less effected by father's educational attainment than are the others.

Another very interesting finding in this group of variables is the highly significant lack of independence between the mobility variable and mother's education only in those two groups which are predominantly female.

Father's socioeconomic status appeared to be quite independent of the mobility variable with most groups showing very irregular patterns of relationship, and only one group--related curriculum instructors--showing a significant lack of independence. Even in this group, the pattern was irregular with the percent who were mobile distributed in this fashion: below first SES quartile, 13.3; between first and second quartile, 54.5; between second and third quartile, 17.6; above the third quartile, 42.1.

Categorizing the educators according to father's occupation--farm, blue collar, and white collar--and comparing them to the mobility factor did not provide much helpful information. The prediction that educators with high socioeconomic backgrounds would be more inclined to be mobile than educators with low socioeconomic backgrounds, was not supported by analyses of the Duncan SES variable and the three-way classification of occupations, but was partially supported by the analysis of father's education as one component of socioeconomic status.

Geographic Variables

The five "distance" variables, i.e., variables 13, 14, 18, 19, and 21 in

Table 4.13, provide similar information with distance from parents showing a significant lack of independence from the mobility variable in four areas. When the areas are studied individually with regard to the five distance variables, the following picture emerges:

1. The applied biological and agricultural educators: no significance was found for any distance variable.
2. Business, marketing and management educators: highly significant relationship between mobility variable and distance from parents.
3. Health educators: significant relationships between the mobility variable and three distance variables--distance from spouse's home town (health educators were 88.6 percent female), distance from parents, and distance from previous job.
4. Technical educators: significant relationship with three variables--distance from parents, distance from spouse's parents, and distance from previous job.
5. Trade and industrial educators: this group, the largest of the nine, showed a high level of significance in all chi-square tests except distance from spouse's parents.
6. Personal and public service educators: significant chi-square test with only one distance variable, distance from previous job.
7. Counselors and administrators: neither of these two groups had significant chi-square tests on any of the distance variables.
8. Related curriculum instructors: distance from spouse's home town was the only variable of the five that was significant when compared with the mobility variable.

Graph 4.18 shows the comparative distribution of the mobile educators in the five largest groups when considering the variable, distance from parents.

TABLE 4.13

SELECTED GEOGRAPHIC VARIABLES COMPARED WITH THE MOBILITY VARIABLE BY AREAS OF SPECIALIZATION

(χ^2 Significance Values)[1]

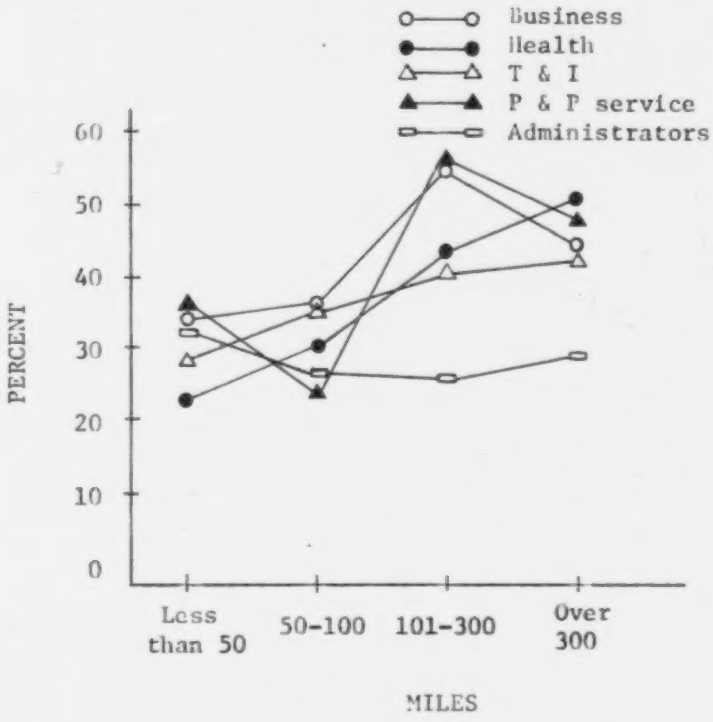
Variable	Field Of Specialization[2]								
	Agri.	Bus.	Health	Tech.	T & I	P Serv	Couns.	Admin.	Rel Cur
13.[3] Distance from home community of youth	--	--	--	--	** 927	--	--	--	--
14. Distance from spouse's home community	--	--	** 240	--	** 887	--	--	--	* 57
15. Region of the country	--	--	* 338	--	**1015	* 239	--	--	* 74
16. Size and type of community in which school is located	--	--	--	--	--	--	* 147	--	--
17. Size of past community compared to present	--	--	--	--	--	--	--	--	--
18. Distance from parents	--	** 405	** 269	* 84	** 765	--	--	--	--
19. Distance from spouse's parents	--	--	--	* 73	--	--	--	--	--
20. Population density of state per square mile	--	--	* 338	--	**1015	--	--	* 231	--
21. Distance from previous job	--	--	* 320	* 105	** 949	* 206	--	--	--
22. Interstate mobility	--	--	--	--	--	** 209	--	--	--

[1] * = < .05 probability level; ** < .01 probability level.

[2] See page 96 for full names of the areas.

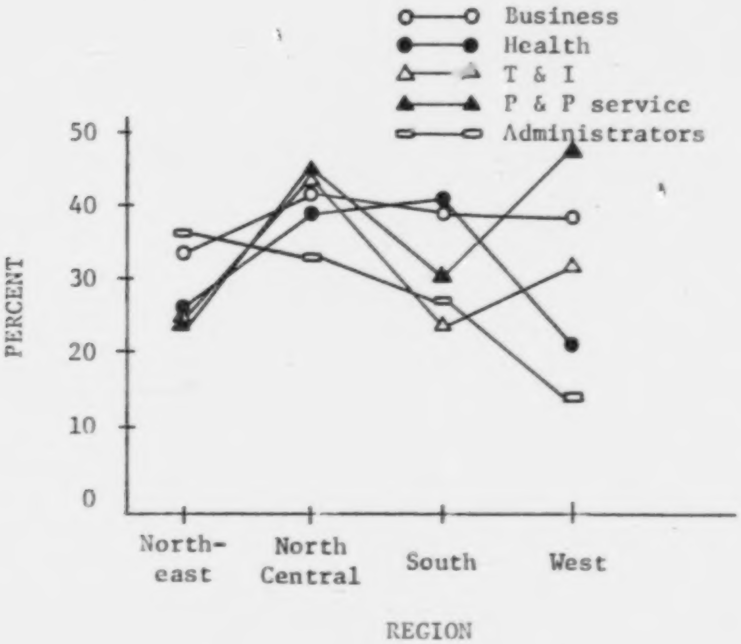
[3] Numbering of the variables corresponds to numbering scheme in Appendix B.

Only two of the five distributions show a linear relationship, although four exhibit the expected increase in the number who were mobile when distance from parents increased. The apparent independence of the two variables in the administrators' group is difficult to explain in view of the tendency of most of the other groups to respond in a fashion that is supported by the Lansing and Mueller study (1967, pp. 129-131).



GRAPH 4.18. Comparison of mobility variable and distance from respondent's parents in the five largest groups; percent that were mobile shown. Source: Appendix A, Table 20.

The difference in the expected mobility among the four regions of the country, while it may not provide particularly helpful information for the local administrator, may be of interest to those persons who are viewing manpower needs and movement over a larger geographic area. Graph 4.19 shows the percent of mobile educators in each region for the five largest groups. The prediction was made that mobility was expected to be greatest in the West and in the South (pp. 90-1). The previous analysis by school type revealed that the North Central region had the largest proportion of mobile educators by the definition used. While the North Central region again claims the highest average of the five regions, the patterns vary considerably with the West showing the greatest variation. Further study would be required to explain why nearly half of the personal and public service educators in the West were mobile while only 20.9 percent of the health educators and 14.3 percent of the administrators in that region were mobile.



GRAPH 4.19. Percent of educators who were mobile in each region for the five largest groups. Source: Appendix A, Table 21.

The remaining variable in this group to show a significant lack of independence in more than one region is population density of the respondent's state. However, in no area of specialization was the relationship between population density and the mobility variable linear.

Variables Related to Previous Education

The results of the chi-square tests of the relationship between the mobility variable and the variables related to previous education are shown in Table 4.14. Although educational attainment of the respondent had a highly significant relationship with the mobility variable for the groups in two of the three types of schools, only one area of specialization showed a significant relationship between these variables. This relationship and those found in the other four largest groups are shown in Graph 4.20. Although the chi-square tests were applied to a two by six table in which six educational values ranged from "high school graduate" to "doctorate" (see Table 22 in Appendix A), the values have been reduced to three in the graphs to decrease the number of small cells. With the exception of one cell, the four instructional categories are very similar. There appears to be a tendency for persons who are in the business, marketing, and management area and have less than a baccalaureate degree to be more mobile, but the reason for this is not revealed by the analysis. When the distributions of the four curriculum areas in the graph are studied, the percentage of each group found to have less than a baccalaureate degree were: business 6.6 percent, health 29.9 percent, trade and industrial 48.5 percent, and personal and public service 16 percent. Perhaps those in business who have less than a baccalaureate degree tend to feel less accepted or have less professional identity since they constitute such a small proportion of their group. Or, perhaps, this segment of the business educators represents a specific curriculum group, e.g., distributive education instructors, who have educational backgrounds and skill development methods that are different from the rest of

TABLE 4.14

VARIABLES RELATED TO PREVIOUS EDUCATION COMPARED WITH THE MOBILITY VARIABLE BY AREAS OF SPECIALIZATION

(χ^2 Significance Values)[1]

Variable	Field Of Specialization[2]								
	Agri.	Bus.	Health	Tech.	T & I	P Serv	Couns.	Admin.	Rel Cur
23.[3] High school major	--	--	--	--	--	--	--	--	--
24. Undergraduate major: teaching, nonteaching	--	--	--	--	--	--	--	--	--
26. Educational attainment of respondent	--	--	--	--	**1010	--	--	--	--
27. Method of teacher preparation (teachers only)	* 112	* 469	--	--	** 944	--	NC[4]	NC	--
28. Method of vocational skill acquisition: in school, not in school (teachers only)	--	* 476	--	--	--	--	NC	NC	--
29. Method of vocational skill acquisition: in school, cooperative program, not in school (teachers only)	--	* 473	* 313	--	--	--	NC	NC	--
30. Number of credit hours earned in counseling (counselors only)	NC	NC	NC	NC	NC	NC	--	NC	NC

TABLE 4.14 (Continued)

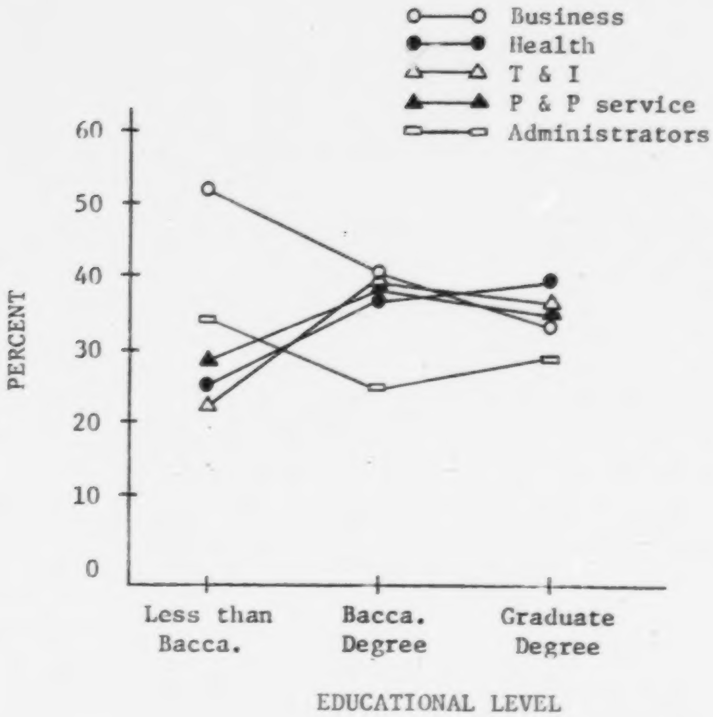
Variable	Field Of Specialization[2]								
	Agri.	Bus.	Health	Tech.	T & I	P Serv	Couns.	Admin.	Rel Cur
31. Number of credit hours earned in vocational counseling (counselors only)	NC	NC	NC	NC	NC	NC	--	NC	NC
32. When choice was made to enter occupational education	--	--	--	--	--	--	--	--	--

[1] * = < .05 probability level; **< .01 probability level.

[2] See page 96 for full names of the areas.

[3] Numbering of the variables corresponds to numbering scheme in Appendix B.

[4] Not calculated: insufficient cell frequencies or not applicable.

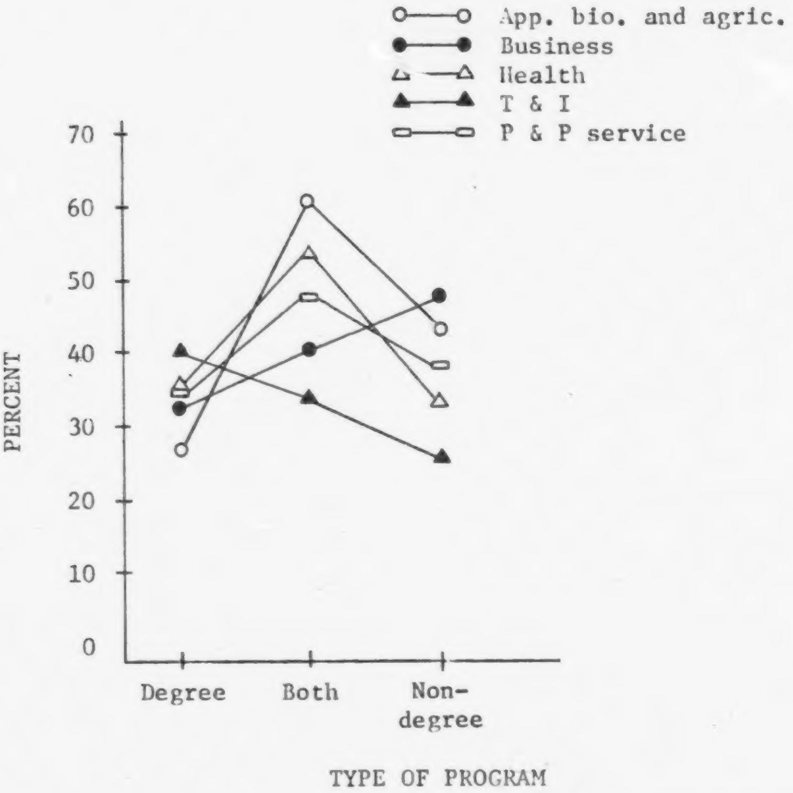


GRAPH 4.20. Percent of educators who were mobile categorized by educational level attained, for the five largest groups. Source: Appendix A, Table 22.

the business educators. The somewhat curvilinear configureation of the other three curriculum areas may suggest that persons with lower educational backgrounds tend to be local individuals who are quite satisfied with their jobs, while at the other extreme may be the more professional-minded individuals, many of whom are at the college level and/or are administrators in their specialty area. Further analysis would be required to test these hypotheses.

The pattern for administrators suggests that mobility is affected little by educational level. Administrators as a whole tend to be older, less mobile, and tend to have a higher education. The small proportion of administrators who have less than a baccalaureate degree would likely experience considerable pressure to complete a degree, perhaps explaining the slightly higher percentage of mobile administrators in the less-than-baccalaureate category.

The method by which teachers had been prepared proved to be significant in three of the seven curriculum areas. The patterns developed when comparing this factor to the mobility factor are not consistent among the areas as is shown in Graph 4.21. Why those who claimed to have both types of teacher preparation--part of a degree program and some other type--tended to be more mobile is difficult to explain. This category, however, never contained more than 21 percent and had as few as 8.8 percent of the respondents in the respective



GRAPH 4.21. Percent of educators who were mobile in each of the five largest areas, categorized by method of teacher preparation. Source: Appendix A, Table 23.

areas. Comparing the two methods and ignoring for a moment those who checked "both," an interesting relationship is observed: in all seven areas, the group ("degree" group or "nondegree" group) which was most stable constituted the largest group within the respective area. For example, 59.9 percent of the business educators claimed to have received their teacher preparation through degree programs. As shown in Graph 4.21, this group had the lowest proportion of "mobile educators" when compared to the "nondegree" groups. Conversely, 54.8 percent of the trade and industrial educators claimed to have received their teacher preparation through nondegree programs. This group also tended to be least "mobile" as seen on the graph (see Appendix A, Table 23, for the bases of these comparisons). Further exploration of this result is encouraged to determine if the members of the "minority" group (in terms of teacher preparation) feel intimidated by the majority who have used a different method, or if they feel less competent or have less commitment because of their training, or for some other reason tend to be more mobile.

The method of vocational skill acquisition proved to be significant in two of the seven curriculum areas. The distribution of mobile educators was highest in the "not in school" group (47.7 percent of this group were mobile) in the business, marketing, and management area. In the health occupations group, the highest proportion of mobile educators were found to be among those who had developed their skill in a cooperative program (45.6 were mobile in this group compared to 36.4 percent and 23.2 percent in the other two categories). When the same comparison was made with the responses to this variable as was done with the responses to the variable in the previous paragraph (method of teacher education), it was noted that the proportion of educators who were mobile was greatest in the categories with the fewest responses in only three of the nine areas.

The two variables regarding counselor preparation (30 and 31) were not significant when compared with the mobility variable. Nor was the variable significant which was concerned with the time when the respondent decided to enter occupational education (Variable 32).

Work-Related Variables

The selected work-related variables listed in Table 4.15 would be of little help to the local administrator in hiring personnel, but may be of some help to the local administrator in making manpower need projections. The three variables that measure similar information, i.e., tenure status, years in current school system, and years in current position, provided chi-square test results and cross-tablulations that generally support the relationship expected: the longer one is in a position, the less likely he or she is to move. The results of the analysis of adjusted monthly income support the expectation that the higher one's income the less likely the person will move. The four variables referred to here are all partially functions of age, and additional analysis would be required to discover if these variables really make a difference when age is held constant. Several of the groups were too small to allow further breakdown. Two graphs show the distribution of the mobile educators in each of the five largest areas for two variables: years in current school system (Graph 4.22) and adjusted monthly income (Graph 4.23).

Graph 4.22 illustrates the quite linear, inverse relationships between the mobility variable and the number of years the respondents had been in their current school system. The relationship between mobility and monthly income, however, is not as clearly defined as shown in Graph 4.23. Why educators who are paid less in the health and the trade and industrial area tend to be less inclined toward mobility than their counterparts in the other areas is not known.

TABLE 4.15

SELECTED WORK-RELATED VARIABLES COMPARED WITH THE
MOBILITY VARIABLES BY AREAS OF SPECIALIZATION
(χ^2 Significance Values)[1]

Variable	Field Of Specialization[2]								
	Agri.	Bus.	Health	Tech.	T & I	P Serv	Couns.	Admin.	Rel Cur
33.[3] Tenure status	--	** 486	* 320	--	** 973	** 235	--	--	--
34. Adjusted monthly income	--	** 494	--	--	** 996	* 234	--	* 230	--
35. Years in current school system	--	** 468	* 321	** 99	** 938	** 226	--	** 213	--
36. Years in current position	--	** 469	* 325	--	** 947	--	--	--	--
37. Average (mean) class size (teachers only)	--	--	--	--	--	--	--	--	--
38. Number of assigned counselees (counselors only)	NC[4]	NC	NC	NC	NC	NC	--	NC	NC
39. Number of contact hours per week with students (teachers only)	--	--	* 322	--	--	--	--	--	--
40. Reason for taking current educational job	--	--	--	--	--	--	--	--	--
41. Full-time equivalent enrollment in vocational program	--	--	--	--	--	--	--	--	--

TABLE 4.15 (Continued)

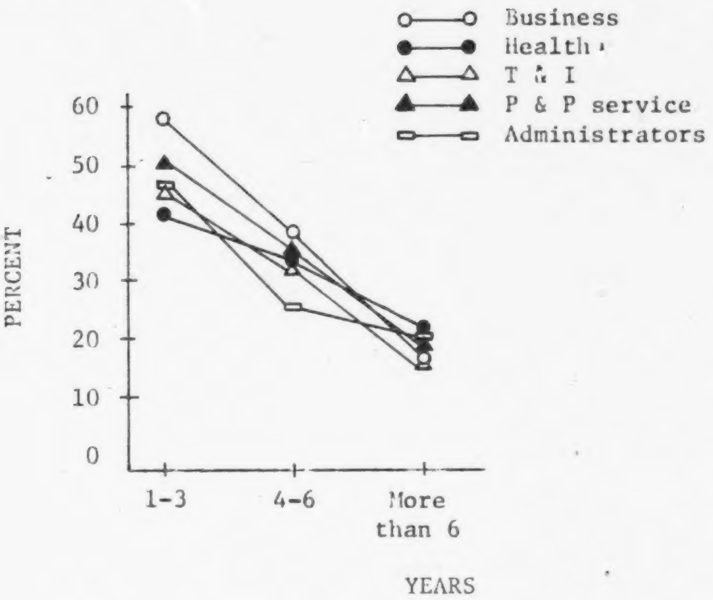
Variable	Field Of Specialization[2]								
	Agri.	Bus.	Health	Tech.	T & I	P Serv	Couns.	Admin.	Rel Cur
42. Full-time equivalent enrollment of school	** 118	--	--	--	--	--	--	--	--

[1] * = < .05 probability level; ** < .01 probability level.

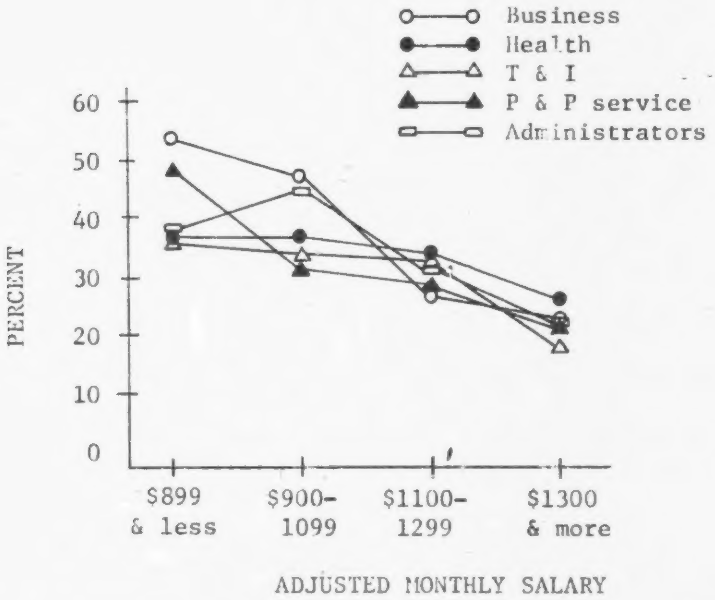
[2] See page 96 for full names of the areas.

[3] Numbering of the variables corresponds to numbering scheme in Appendix B.

[4] Not calculated: insufficient cell frequencies or not applicable.



GRAPH 4.22. Percent of educators who were classified as mobile in each of the five largest areas, according to the number of years the respondent had been in his current school system. Source: Appendix A, Table 24.



GRAPH 4.23. Percent of educators who were classified as mobile in each of the five largest areas, according to monthly salary. Source: Appendix A, Table 25.

Perhaps an interaction between sex differentials and educational preparation differentials affected the results.

As shown in Table 4.15, the working conditions factors--class size, number of contact hours, and number of assigned counselees--appeared to be independent of the mobility variable. No significant differences were found in comparing the mobility variable and the reasons for the respondents' taking their current jobs. Nor did the analyses of the two variables referring to school enrollments display significant results except for one case: a highly significant relationship was found for the agriculture and applied biological group when the full-time equivalent enrollment of the respondent's school was compared with the mobility factor. But the relationship was neither linear nor curvilinear and the author has difficulty interpreting it.

Previous Employment Variables

Several of the previous employment variables are closely related to age, and that relationship must be borne in mind in reviewing the results of the chi-square analyses. The crosstabulations of variables 43, 44, 45, and 47 on Table 4.16 generally support the hypothesis that the more years of employment one has had, and the longer it has been since an occupational change, the lower will be the subject's propensity toward employment mobility.

The variable in this group that shows a significant relationship in seven of the nine areas is the average length of educational jobs. This variable is second only to age in the number of areas in which a significant relationship was found. However, this variable is also assumed to be a function of age in many cases since older educators who are no longer mobile will have a high value on the variable while someone who is teaching for the first time will have an average length of job of one year. A multivariate technique which partials

TABLE 4.16

SELECTED VARIABLES RELATED TO PREVIOUS EMPLOYMENT COMPARED WITH THE MOBILITY VARIABLE BY AREAS OF SPECIALIZATION

(χ^2 Significance Values)[1]

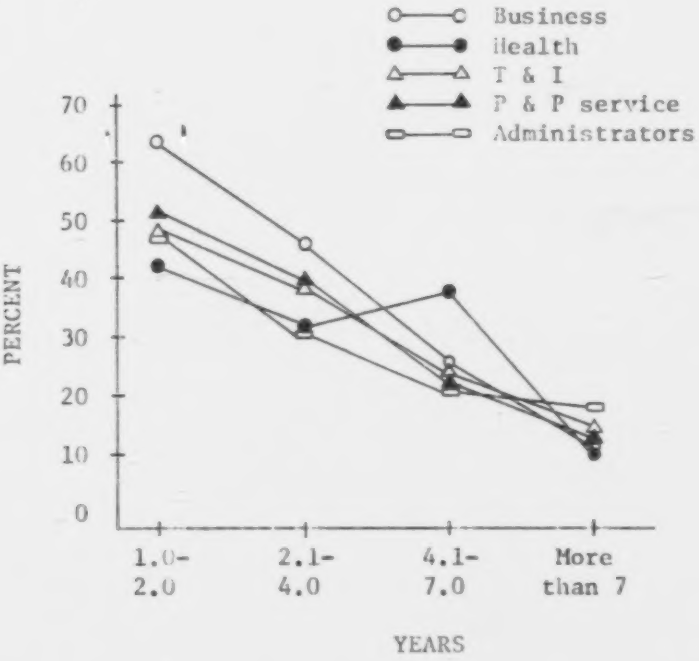
Variable	Field Of Specialization[2]								
	Agri.	Bus.	Health	Tech.	T & I	P Serv	Couns.	Admin.	Rel Cur
43.[3] Years of full-time noneducational work	* 91	--	* 302	--	** 892	--	--	--	--
44. Years since related noneducational work	--	** 372	--	--	** 833	* 124	* 108	--	--
45. Years in educational employment	--	** 469	* 312	* 108	** 923	** 216	** 141	--	--
46. Average length of educational jobs	* 113	** 467	* 313	--	** 920	** 216	** 141	* 209	--
47. Years in occupational education	--	--	--	* 106	** 966	* 193	--	* 223	--
48. Change in enrollments, past school to present school	* 119	** 500	** 337	** 111	**1009	.06 237	--	--	--
49. Reasons for leaving previous job	--	--	--	--	--	--	--	--	--
50. Career sequence prior to entering occupational education employment	--	--	--	--	** 924	--	--	--	--

[1] * = < .05 probability level; ** < .01 probability level.

[2] See page 96 for full names of the areas.

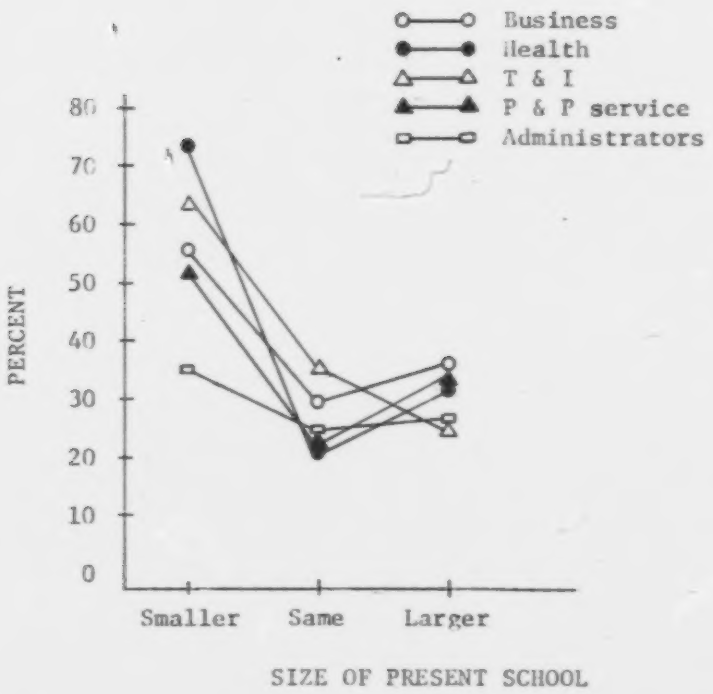
[3] Numbering of the variables corresponds to numbering scheme in Appendix B.

out correlations is necessary in order to study the independent effect of this variable. The relationship of this variable to the mobility variable in the five largest areas is shown in Graph 4.24. With the exception of one category in the health educators' group, the relationships shown on the graph are linear and show a strong inverse relationship between the two variables.



GRAPH 4.24. Percent of educators who were classified as mobile in each of the five largest areas, according to the average length of educational jobs held. Source: Appendix A, Table 26.

An interesting finding that may prove useful to the local personnel director is the apparent relationship found between the mobility variable and the change in enrollment from the past school to the present school. Obviously, the analysis is limited to those educators who had previously worked in a school system. The analysis of this variable is shown in Graph 4.25 for the five largest areas. In all of the curriculum areas except related curriculum, over 50 percent



GRAPH 4.25. Percent of educators who were mobile in each of the five largest areas, according to whether present school in which respondent was employed was larger, the same, or smaller than the school in which he or she was previously employed. Source: Appendix A, Table 27.

of the individuals who moved from a larger school to a smaller school did not expect to be in their current positions in five years (see Appendix A, Table 27). In six of the nine groups, those who moved to a school of the same size tended to be most stable. With only one exception, those who moved to a school of the same size as or larger than their previous school tended to be considerably more stable than those who moved to a smaller school. As indicated in the previous section of this chapter, the reasons for this phenomenon may be related to wages, equipment, or facilities.

For the two remaining variables in this group, only one chi-square test was significant. A study of the career sequences within the areas of specialization revealed that in two areas (agriculture and related curriculum) all educators had had some post-secondary formal education. In six of the remaining seven areas, those in the contingent who had had no formal education were more stable than any group with formal education. Whether those with no formal education were older educators or were different in some other way from the educators with formal education was not determined.

Variables Related to Professional Identity and Educational Plans

Five variables (51 through 55) focusing on three types of information were utilized to determine the professional identity of the respondent. The chi-square results shown in Table 4.17 indicate considerable independence between the professional identity variables and the mobility variable. These findings fail to support the expectation (p. 91) that low professional identity is associated with high mobility (assuming that the variables chosen were valid measures of professional identity).

In variable 51, a majority of the educators in each of the nine areas indicated a stronger identity with educators and occupational educators than with noneducators. Identification with educators was lowest for counselors (55.4 percent) and health educators (57.7 percent), and was highest for related curriculum instructors (83.3 percent) and technical educators (74.5 percent). The lower identity of health educators is thought to be explainable by virtue of their belonging to two professional groups. However, a significant chi-square was found only in the health area, and it was in the direction anticipated: 47 percent of the health educators who identified with specialists outside education were classified as mobile while only 33.1 percent of those who identified with educators were mobile.

Only one-chi-square test proved to be significant for the variable which identified the group (in education or outside education) with which each

TABLE 4.17

VARIABLES RELATED TO PROFESSIONAL IDENTITY AND EDUCATIONAL PLANS COMPARED WITH THE MOBILITY VARIABLE BY AREAS OF SPECIALIZATION

(χ^2 Significance Values)[1]

Variable	Field Of Specialization[2]								
	Agri.	Bus.	Health	Tech.	T & I	P Serv	Couns.	Admin.	Rel Cur
51.[3] Group with which respondents identifies	--	--	* 267	--	--	--	--	--	--
52. Persons with whom respondent associates	--	--	--	--	--	--	--	--	* 69
53. Number of vocational association memberships	--	--	--	--	--	--	--	--	--
54. Number of professional education association memberships	--	** 433	--	--	--	--	--	--	--
55. Number of professional association memberships	--	--	--	* 108	--	--	--	--	--
56. Current educational activity	--	--	--	* 110	** 988	--	--	--	--
57. Educational orientation (past, present, and anticipated educational activity)	--	--	--	--	**1001	--	--	--	--

[1] * = < .05 probability level; ** < .01 probability level.

[2] See page 96 for full names of the areas.

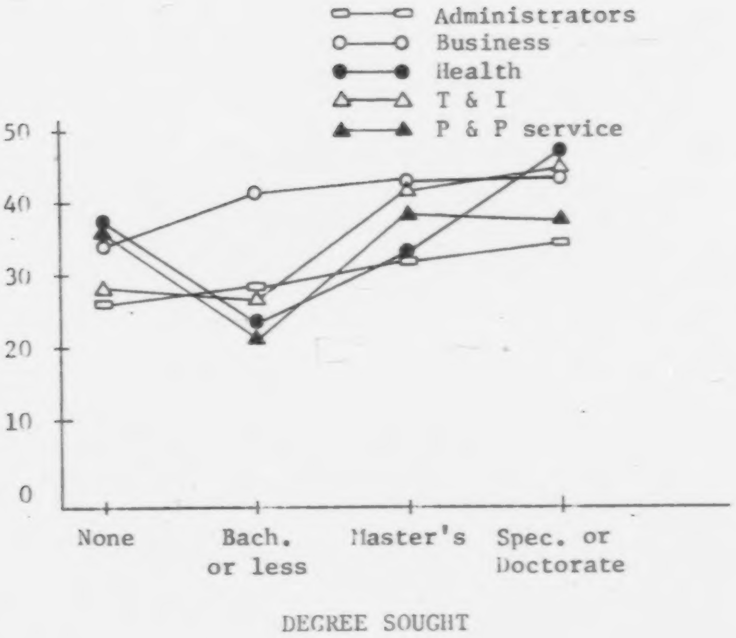
[3] Numbering of the variables corresponds to numbering scheme in Appendix B.

respondent associated. Of additional interest in this analysis is that in eight of the nine areas, the majority of educators associated with people outside education. No attempt was made to determine whether the associates outside education were in related work or were simply community people with no connections to the respondents' specialties. The proportion which was mobile was sometimes larger in the "in education" group and sometimes larger in the "outside education" group, but, as is shown in Table 4.17, only one significant finding was discovered.

Only two significant chi-square tests were encountered in the three professional membership variables. In the case of the first chi-square (variable 54), the business educators who held only one membership in an educational association were more likely to be mobile (46.9 percent) than were those who held two (31.8 percent) or three memberships (30.2 percent). This anticipated outcome was not supported in the other areas.

The first education variable (number 56) was not as revealing in this analysis as it was in the analysis by school type. Graph 4.26 shows two types of curves for the five areas when comparing the mobility variable and the degree sought by the subject. In three of the areas the educators who were currently pursuing a baccalaureate degree tended to be less mobile than those who were not engaged in any formal education or who sought higher degrees.

Highly significant chi-square tests resulted from comparing the mobility variable and the two education variables for the trade and industrial educators. Those individuals who were engaged in the higher levels of education or were oriented toward a high level of education, tended to be most mobile. It seems likely that the mobility anticipated by these individuals was vertical within education, although this hypothesis was not analyzed.



GRAPH 4.26. Percent of educators who were mobile in each of the five largest areas, according to degree sought. Source: Appendix A, Table 28.

Discriminant Analysis by Area of Specialization

A major problem in univariate analysis is the difficulty of interpreting differences between groups on variables that may be correlated. When two variables are correlated to a high degree, it may be redundant as well as misleading to say that one group has higher values on both variables than the other, if the reason for this apparent fact is a result of their interaction. To solve this problem, a multivariate approach is necessary in which the effects of other variables are eliminated or "partialled out," and the effect of the variable being analyzed is weighted as to its independent effect and relative importance in the total analysis (Tatsuoka, 1970).

Discriminant analysis has been selected for the final analysis in this study because it eliminates the problems with univariate analysis described in the preceding paragraph. In discriminant analysis, a linear combination of weighted variables is developed. The linear combination, e.g., .03X + .87Y - .302Z, describes the relative contribution of each variable in addition to identifying the direction of each variable as it contributes to the differentiation between two groups. The linear combination taken together is called a discriminant function and can be treated as a single variable, i.e., it can be tested for significance to determine the probability of randomly selecting individuals to form two groups which would have means on the discriminant function which are as different as those found in the analysis. The function can be perceived as a best obtainable discriminator between two groups, and the linear combination which composes the function can be studied in terms of the relative importance and direction of each variable. Direction is best explained as follows. Each group has a mean on the discriminant function; the highest group mean is associated with a positive direction on the variables, i.e., an increase in the value of variable X is associated with the group having the higher discriminant function mean. Conversely, a negative sign before the weight assigned to a variable indicates that a increase in the value of variable X is associated with the group having the lowest discriminant function mean.

In this study, discriminant analysis has been applied to each of the nine areas of specialization. Twenty-one variables were chosen from the 57 which were analyzed in the two previous sections. As indicated in the introductory portion of this chapter, the selection of the variables for the discriminant analysis was based on (1) the chi-square results, (2) the potential usefulness of the variable for local administrators, and (3) the ease with which local administrators could obtain the necessary information.

Two of the variables were not included in the analysis for counselors, administrators, and related curriculum instructors since these two variables were related to skill preparation and teacher preparation, factors that were of special interest in the six vocational instruction categories. The value categories of the variables utilized in the analyses are listed in the variable list in Appendix B.

In reporting the results of the discriminant analyses, five types of information are shown for each area of specialization:

1. The discriminant weight value of each variable, showing its strength and direction.
2. The standardized or scaled discriminant weight for each variable. This weight takes into consideration the standard deviation of the respective variable.
3. The means and standard deviations of the total group for each variable.
4. The means of the "stable" and "mobile" groups on the discriminant weights. It should be noted here that the definitions for mobile and stable educators are the same as those used in previous sections.
5. Two measures of the significance of the overall discriminant function are provided with Rao's F ratio approximation and a chi-square approximation.

Positive values on the weights are associated with the educators who were classified as mobile in each of the nine areas of specialization since they consistently had a higher mean on the discriminant weights than did the stable group.

Since it appears unprofitable at this time to study the factors that are poor discriminators, only those variables are discussed whose weight is half or more than half that of the largest weight. In this section of the report, the weighted variables are interpreted to describe the mobile educators in each specialty. If the reader wishes to interpret the discriminant weights for himself, he may do so by following this procedure: (1) locate the desired variable on the variable list in Appendix B; (2) note the numbering or ranking of the values for the variable; (3) refer back to the discriminant table and observe the sign of the weight given to the variable; (4) if the weight is positive, the higher value in Appendix B is descriptive of the mobile educators; if the weight is negative, the lower value in Appendix B is descriptive of the mobile educators. The values may be reversed if one wishes to describe the stable educators as is done in Chapter V.

Applied Biological and Agricultural Occupations Educators (Table 4.18)

This discriminant analysis was significant beyond the .05 level on both the chi-square and Rao's F test. Twelve variables share the majority of the discriminatory power in this area. These variables suggest that mobile educators in the applied biological and agricultural group, when compared with the stable educators:

1. Tend to have previous educational jobs of shorter average duration (#46).
2. Tend to have been employed in education for a longer period of time (#45).
3. More likely had vocational undergraduate majors (#25).
4. Method of teacher preparation was less often a part of a degree program (#27).
5. Are more often single (#4).
6. Tend to have more highly educated fathers (#8).

TABLE 4.18

DISCRIMINANT ANALYSIS OF APPLIED BIOLOGICAL AND AGRICULTURAL EDUCATORS

Variable[1]	Total group = 121		Discriminant weights	Standardized disc. weights
	Mean	S.d.		
2. Age	2.61	1.16	.203	2.521
8. Father's education	1.61	1.22	.209	2.735
9. Father's SES	1.94	1.20	.098	1.287
11. Mother's education	1.61	1.01	- .080	- .880
34. Monthly salary	3.90	1.29	.184	2.547
4. Marital status	1.38	1.45	.179	2.835
10. Father's occupation	1.62	.90	- .104	- 1.023
16. Community size	3.86	1.16	.005	.058
18. Distance from parents	1.69	1.25	.170	2.276
22. Interstate mobility	1.43	.83	- .198	- 1.802
43. Years of noneducational work	2.83	1.92	.066	1.374
45. Years in educational jobs	2.91	1.64	- .174	- 3.079
46. Mean length of educational jobs	2.45	1.30	.235	3.259
48. Change in enrollment size	1.08	1.24	- .074	- 1.006
25. Undergraduate major	1.23	.46	- .603	- 3.046
26. Educational attainment	4.55	.63	.235	1.629
27. Method, teacher preparation	1.68	.90	.302	2.923
29. Method, skill development	1.26	1.09	- .057	- .688
53. Vocational association membership	1.25	.80	.011	.095
57. Educational orientation	3.60	.51	- .379	- 2.075
50. Career sequence	1.69	.96	.030	.309

Discriminant weights means of: stable group = 1.117; mobile group = 1.884.
Approximate chi-square = 37.94, 21 degrees of freedom; $p < .05$.
Rao's F ratio: 21/99 = 1.931; $p < .05$.

[1] A description of the variables and their values are in Appendix B.

7. Tend to be younger (#2).
8. Tend to draw lower monthly salaries (#34).
9. Tend to be living farther from parents (#18).
10. Tend to have lower educational orientation, i.e., level of educational expectations tend to be lower (#57).
11. Tend to have had lower interstate mobility in the past (#22).
12. Tend to have a higher education (#26).

Business, Marketing, and Management Educators (Table 4.19)

A chi-square probability beyond .001 and an F test probability beyond .01 were found for this analysis. This discriminant group is composed of only four variables. These four suggest that business, marketing, and management educators who were classified as mobile, when compared to stable educators:

1. Tend to have had previous educational jobs of shorter average duration (#46).
2. Tend to be younger (#2).
3. More often changed educational employment from a larger school (#48).
4. Tend to have a lower educational orientation, i.e., their level of educational expectations tends to be lower (#57).

Health Occupations Educators (Table 4.20)

This discriminant analysis was significant beyond the .05 level of probability on both significance tests. Nine variables constitute the discriminant group in the health occupations area. These variables indicate that the mobile

TABLE 4.19

DISCRIMINANT ANALYSIS OF BUSINESS, MARKETING, AND MANAGEMENT EDUCATORS

Variable[1]	Total group = 525		Discriminant weights	Standardized disc. weights
	Mean	S.d.		
2. Age	2.41	1.11	.480	11.477
8. Father's education	1.72	1.26	- .014	- .394
9. Father's SES	2.53	1.27	- .007	- .190
11. Mother's education	1.78	1.15	.074	1.952
34. Monthly salary	3.36	1.40	.119	3.728
4. Marital status	1.55	1.65	.050	1.878
10. Father's occupation	2.20	.97	- .050	- 1.105
16. Community size	2.76	1.28	- .177	- 5.177
18. Distance from parents	1.34	1.33	.052	1.573
22. Interstate mobility	1.59	.88	.200	4.014
43. Years of noneducational work	2.83	1.90	- .040	- 1.751
45. Years in educational work	2.81	1.57	- .134	- 4.620
46. Mean length of educational jobs	2.50	1.23	.445	11.892
48. Change in enrollment size	1.23	1.27	- .245	- 7.022
25. Undergraduate major	1.38	.53	.072	.878
26. Educational attainment	4.48	.82	.088	1.649
27. Method, teacher preparation	1.69	.87	.090	1.783
29. Method, skill development	.03	.26	.436	2.630
53. Vocational association membership	1.88	1.01	.088	2.015
57. Educational orientation	3.53	.65	- .417	- 6.210
50. Career sequence	1.79	.99	- .019	- .436

Discriminant weights means of: stable group = .820; mobile group = 1.716.
Approximate chi-square = 113.90, 21 degrees of freedom; $p < .001$.
Rao's F ratio: 21/503 = 5.94; $p < .01$.

[1] A description of variables and their values are in Appendix B.

TABLE 4.20

DISCRIMINANT ANALYSIS OF HEALTH EDUCATORS

Variable[1]	Total group = 355		Discriminant weights	Standardized disc. weights
	Mean	S.d.		
2. Age	2.34	1.00	.249	4.611
8. Father's education	1.74	1.24	.299	6.900
9. Father's SES	2.46	1.29	- .278	- 6.738
11. Mother's education	1.70	1.13	- .073	- 1.547
34. Monthly salary	3.71	1.40	.230	6.037
4. Marital status	1.67	1.75	.105	3.454
10. Father's occupation	2.06	1.02	.215	4.097
16. Community size	2.42	1.21	- .126	- 2.854
18. Distance from parents	1.36	1.36	.055	1.400
22. Interstate mobility	1.52	.81	. 72	1.101
43. Years of noneducational work	2.79	1.67	.166	5.184
45. Years in educational work	3.37	1.55	.244	7.056
46. Mean length of educational jobs	2.89	1.25	- .104	- 2.427
48. Change in enrollment size	.80	1.25	- .153	- 3.602
25. Undergraduate major	1.32	.61	- .109	- 1.247
26. Educational attainment	4.03	1.04	.445	8.658
27. Method, teacher preparation	2.22	1.06	- .033	- .658
29. Method, skill development	.01	.15	- .279	- .788
53. Vocational association membership	1.92	1.14	.319	6.843
57. Educational orientation	3.48	.79	- .084	- 1.245
50. Career sequence	1.98	.81	- .337	- 5.136

Discriminant weights means of: stable group = 3.524; mobile group = 4.155.
Approximate chi-square = 35.85, 21 degrees of freedom; $p < .05$.
Rao's F ratio: 21/333 = 1.739; $p < .05$.

[1] A description of variables and their values are in Appendix B.

health occupations educators, when compared to the stable group:

1. Tend to have a higher education (#26).
2. Tend to have been employed in education for a shorter period of time (#45).
3. Tend to have more highly educated fathers (#8).
4. Tend to hold fewer vocational association memberships (#53).
5. Tend to have fathers with lower socioeconomic status (#9).
6. Tend to draw a lower monthly salary (#34).
7. Tend to have a record of less noneducational work (#43).
8. More often secured formal education before work experience (#50).
9. Tend to be younger (#2).

Trade and Industrial Educators (Table 4.21)

Both significance tests of this analysis produced probability levels beyond .001. Only two variables qualify for the discriminant list. These two suggest that the mobile trade and industrial educators, when compared to the stable group:

1. Tend to have had previous educational jobs of shorter average duration (#46).
2. Tend to draw lower monthly salaries (#34).

Personal and Public Service Educators (Table 4.22)

The discriminant analysis of the personal and public service educators was significant beyond the .001 level on the chi-square test and beyond the

TABLE 4.21

DISCRIMINANT ANALYSIS OF TRADE AND INDUSTRIAL EDUCATORS

Variable[1]	Total group = 1064		Discriminant weights	Standardized disc. weights
	Mean	S.d.		
2. Age	2.04	1.06	.271	9.190
8. Father's education	1.39	1.17	.319	12.059
9. Father's SES	2.15	1.22	- .061	- 2.406
11. Mother's education	1.52	1.15	- .110	- 4.114
34. Monthly salary	3.50	1.38	.339	15.168
4. Marital status	1.66	2.11	- .014	- .961
10. Father's occupation	1.91	1.00	- .074	- 2.406
16. Community size	2.66	1.35	- .144	- 6.338
18. Distance from parents	1.16	1.22	.101	3.983
22. Interstate mobility	1.52	0.88	- .041	- 1.187
43. Years of noneducational work	2.06	1.54	- .101	- 5.045
45. Years in educational work	2.92	1.66	- .215	- 11.514
46. Mean length of educational jobs	2.26	1.30	.624	25.869
48. Change in enrollment size	0.62	1.08	- .023	- .799
25. Undergraduate major	1.00	0.58	- .086	- 1.633
26. Educational attainment	3.33	1.39	.281	12.585
27. Method, teacher preparation	2.13	1.01	- .222	- 7.271
29. Method, skill development	0.14	0.55	.019	.341
53. Vocational association membership	1.62	0.99	- .106	- 3.425
57. Educational orientation	3.16	0.98	.103	3.262
50. Career sequence	2.42	1.28	- .228	- 9.472

Discriminant weights means of: stable group = 1.692; mobile group = 2.508.
Approximate chi-square = 118.23, 21 degrees of freedom; $p < .001$.
Rao's F ratio: 21/1042 = 5.89; $p < .001$.

[1] A description of the variables and their values is in Appendix B.

TABLE 4.22

DISCRIMINANT ANALYSIS OF PERSONAL AND PUBLIC SERVICE EDUCATORS

Variable[1]	Total group = 255		Discriminant weights	Standardized disc. weights
	Mean	S.d.		
2. Age	2.37	1.24	.374	7.093
8. Father's education	1.85	1.31	.062	1.280
9. Father's SES	2.49	1.29	.105	2.161
11. Mother's education	1.93	1.26	.019	.372
34. Monthly salary	3.67	1.40	.034	.739
4. Marital status	1.64	1.76	.109	3.051
10. Father's occupation	2.13	1.00	- .236	- 3.741
16. Community size	2.84	1.49	.043	1.020
18. Distance from parents	1.26	1.35	.015	.327
22. Interstate mobility	1.47	0.94	.470	6.928
43. Years of noneducational work	2.00	2.08	- .157	- 5.149
45. Years in educational work	2.82	1.72	.205	5.474
46. Mean length of educational jobs	2.50	1.37	.109	2.353
48. Change in enrollment size	1.11	1.32	- .085	- 1.770
25. Undergraduate major	1.38	0.60	.307	2.927
26. Educational attainment	4.06	1.09	- .067	- 1.165
27. Method, teacher preparation	1.64	0.93	.327	4.854
29. Method, skill development	0.31	0.77	.296	3.620
53. Vocational association membership	1.72	1.02	.091	1.477
57. Educational orientation	3.38	0.83	- .150	- 1.986
50. Career sequence	1.48	1.03	- .379	- 6.160

Discriminant weights means of: stable group = 1.857; mobile group = 2.933.
Approximate chi-square = 55.90, 21 degrees of freedom; $p < .001$.
Rao's F ratio: 21/233 = 2.85; $p < .01$.

[1] A description of the variables and values is in Appendix B.

.01 level on the F test. According to the eight variables that enter the discriminant list in this analysis, the mobile personal and public service educators, when compared to the stable group:

1. Tend to be younger (#2).
2. Tend to have had higher interstate mobility (#22).
3. More often secured formal education before working (#50).
4. Tend to have been employed in education for a shorter period of time (#45).
5. Tend to have a record of more noneducational work (#43).
6. Method of teacher preparation less often part of degree program (#27).
7. Are more likely to have fathers who have or had white collar jobs (#10).
8. Developed vocational skill less often as part of formal education (#29).

Vocational Counselors (Table 4.23)

The discriminant analysis of vocational counselors was significant beyond the .01 level on the chi-square test and beyond the .05 level on Rao's F test. One variable stands out as being weighted more than twice that of any other. According to this variable, the best discriminator between mobile and stable vocational counselors is age, with mobile counselors tending to be younger than stable educators.

Total Program Administrators and Coordinators (Table 4.24)

The discriminant analysis of this group proved to be significant beyond the .02 level on the chi-square test and beyond the .05 level on the F test.

TABLE 4.23

DISCRIMINANT ANALYSIS OF COUNSELORS

Variable[1]	Total group = 155		Discriminant weights	Standardized disc. weights
	Mean	S.d.		
2. Age	2.20	1.02	.775	9.031
8. Father's education	2.00	1.50	.106	1.945
9. Father's SES	2.42	1.17	- .244	- 3.538
11. Mother's education	1.83	1.16	- .002	- 0.032
34. Monthly salary	2.92	1.38	.133	2.241
4. Marital status	1.34	1.30	- .048	- .779
10. Father's occupation	2.03	0.97	.165	1.980
16. Community size	2.61	1.47	- .135	- 2.460
18. Distance from parents	1.50	1.46	- .003	- 0.062
22. Interstate mobility	1.60	0.88	.365	3.947
43. Years of noneducational work	2.72	1.94	.005	0.115
45. Years in educational work	2.22	1.46	- .045	- 0.790
46. Mean length of educational jobs	2.65	1.15	- .127	- 1.784
48. Change in enrollment size	1.69	1.26	- .176	- 2.745
25. Undergraduate major	1.74	0.46	.056	0.317
26. Educational attainment	4.88	0.49	- .124	- 0.750
53. Vocational association membership	2.14	0.99	.129	1.585
57. Educational orientation	3.51	0.64	.026	.206
50. Career sequence	2.08	1.00	- .210	- 2.559

Discriminant weights means of: stable group = .613; mobile group = 1.545.
Approximate chi-square = 36.38, 19 degrees of freedom; $p < .01$.
Rao's F ratio: 19/135 = 2.02; $p < .05$.

[1] A description of the variables and their values is in Appendix B.

TABLE 4.24

DISCRIMINANT ANALYSIS OF TOTAL PROGRAM ADMINISTRATORS

Variable[1]	Total group = 243		Discriminant weights	Standardized disc. weights
	Mean	S.d.		
2. Age	2.02	0.95	.672	9.567
8. Father's education	1.54	1.19	- .118	- 2.193
9. Father's SES	2.33	1.26	.172	3.350
11. Mother's education	1.67	1.15	- .034	- 0.613
34. Monthly salary	2.47	1.40	.281	6.037
4. Marital status	1.66	2.04	- .051	- 1.616
10. Father's occupation	2.01	0.96	.049	0.728
16. Community size	2.56	1.28	.016	0.320
18. Distance from parents	1.30	1.31	- .188	- 3.824
22. Interstate mobility	1.58	0.84	- .003	- 0.041
43. Years of noneducational work	2.74	1.84	.052	1.497
45. Years in educational work	1.90	1.34	- .361	- 7.529
46. Mean length of educational jobs	2.40	1.23	.187	3.550
48. Change in enrollment size	1.38	1.23	- .141	- 2.690
25. Undergraduate major	1.37	0.55	- .266	- 2.265
26. Educational attainment	4.75	0.92	.159	2.279
53. Vocational association membership	1.44	0.85	.303	3.980
57. Educational orientation	3.44	0.74	.041	4.758
50. Career sequence	1.98	1.11	- .075	- 1.288

Discriminant weights means of: stable group = 2.341; mobile group = 3.069.
Approximate chi-square = 34.93, 19 degrees of freedom; $p < .02$.
Rao's F ratio: 19/223 = 1.89; $p < .05$.

[1] A description of the variables and their values is in Appendix B.

The discriminant group is composed of only three variables which suggest that mobile administrators, when compared to stable administrators:

1. Tend to be younger (#2).
2. Tend to have been employed in education for a longer period of time (#45).
3. Tend to draw lower monthly salaries (#34).

Technical Educators (Table 4.25) and Related Curriculum Educators (Table 4.26)

Neither the discriminant analysis of the technical educators nor the discriminant analysis of the related curriculum educators was significant beyond the .05 level. Hence, caution should be exercised against placing too much weight on the results in the two tables. As is reported in Table 4.25, the mobile technical educators, when compared to the stable group:

1. Tend to have been employed in education for a shorter period of time (#45).
2. Were more likely to have or to have had fathers who were farmers or blue collar workers (#10).

Four variables are shown in Table 4.26 to be the best discriminators for the related curriculum educators. These variables suggest that the mobile related curriculum educators, as compared to the stable group:

1. Tend to have been employed in education for a shorter period of time (#45).
2. More often changed educational employment from larger schools (#48).
3. Tend to have more highly educated mothers (#11).
4. Are more likely to have had a nonvocational undergraduate major (#25).

TABLE 4.25

DISCRIMINANT ANALYSIS OF TECHNICAL EDUCATORS

Variable[1]	Total group = 118		Discriminant weights	Standardized disc. weights
	Mean	S.d.		
2. Age	2.04	.97	.184	1.856
8. Father's education	1.76	1.32	.121	1.695
9. Father's SES	2.52	1.28	- .072	- .995
11. Mother's education	1.66	1.14	- .056	- .694
34. Monthly salary	2.75	1.40	- .165	- 2.493
4. Marital status	1.40	1.62	- .006	- .112
10. Father's occupation	2.13	1.02	.444	4.848
16. Community size	2.36	1.46	.053	.844
18. Distance from parents	1.19	1.32	.057	.809
22. Interstate mobility	1.66	.94	.015	.151
43. Years of noneducational work	2.48	1.59	.053	.900
45. Years in educational work	2.86	1.49	.512	7.810
46. Mean length of educational jobs	2.41	1.08	.110	1.234
48. Change in enrollment size	.86	1.19	.225	2.903
25. Undergraduate major	1.25	.54	- .507	- 2.940
26. Educational attainment	4.42	1.04	.258	2.892
27. Method, teacher preparation	1.83	1.12	.122	1.477
29. Method, skill development	.17	.56	- .010	- .060
53. Vocational association membership	1.81	1.13	- .165	- 2.012
57. Educational orientation	3.49	.58	.119	.741
50. Career sequence	2.22	.84	- .073	- .659

Discriminant weights means of: stable group = 3.464; mobile group = 4.494.
Approximate chi-square = 26.98, 21 degrees of freedom; $p > .05$.
Rao's F ratio: 21/96 = 1.30; $p > .05$.

[1] A description of the variables and their values is in Appendix B.

TABLE 4.26

DISCRIMINANT ANALYSIS OF RELATED CURRICULUM EDUCATORS

Variable[1]	Total group = 77		Discriminant weights	Standardized disc. weights
	Mean	S.d.		
2. Age	2.45	1.12	- .077	- 0.754
8. Father's education	1.69	1.24	- .156	- 1.682
9. Father's SES	2.53	1.14	- .011	- 0.110
11. Mother's education	1.99	1.19	.300	3.096
34. Monthly salary	3.75	1.28	- .184	- 2.045
4. Marital status	1.32	0.98	- .007	- 0.059
10. Father's occupation	2.16	1.01	.131	1.151
16. Community size	2.47	1.40	.035	0.427
18. Distance from parents	1.47	1.41	.041	0.508
22. Interstate mobility	1.49	0.72	- .097	- 0.606
43. Years of noneducational work	2.61	1.92	.086	1.431
45. Years in educational work	3.09	1.59	.311	4.234
46. Mean length of educational jobs	2.91	1.14	- .178	- 1.769
48. Change in enrollment size	1.17	1.24	- .362	- 3.569
25. Undergraduate major	1.81	0.43	.650	2.434
26. Educational attainment	4.51	0.84	.108	0.791
53. Vocational association membership	1.95	1.18	- .184	- 1.864
57. Educational orientation	3.52	0.77	- .270	- 1.805
50. Career sequence	1.86	0.91	.093	0.712

Discriminant weights means of: stable group = .164; mobile group = 1.101.
Approximate chi-square = 23.22, 19 degrees of freedom; $p > .05$.
Rao's F ratio: 19/57 = 1.23; $p > .05$.

[1] A description of the variables and their values is in Appendix B.

Summary

Reported in this chapter are a brief discription of the sample, the chi-square analysis by type of school, the chi-square analysis by area of specialty, and the discriminant analysis by area of specialty. Graphs and supporting tables were used to supplement the reports of the chi-square analyses. Discriminant analysis was used to identify the variables which were the best discriminators between the "mobile" educators and the "stable" educators. This statistical tool was chosen since it partials out interaction or intercorrelation among the variables and provides a linear equation of variables which are weighted according to their independent contribution to the analysis.

The value of the discriminant analysis is seen, for example, in the analysis of the agricultural and applied biological occupations educators. In the chi-square analysis of this group (Tables 4.12 through 4.17) only two variables were found to be highly significant when compared to the mobility variable. Only one of these two variables--age--was included in the discriminant analysis, but seven other variables were weighted more heavily than age, indicating that much of the highly significant relationship between age and mobility is, in this case, attributable to a correlation of age with other contributing variables. A similar result was found in the analysis of the trade and industrial educators in which age, highly significant in the chi-square analysis, proved to be a lesser discriminator. These two examples notwithstanding, age was an important discriminator in more specialty areas than was any other variable.

The discriminant analysis and the use of the results from this study are discussed further in the next chapter.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of the Study

The primary purpose of this study was to generate information relative to job mobility which could be helpful for the local occupational program administrator in hiring personnel and in meeting in-service education needs. A second purpose was to increase understanding of the mobility of occupational educators in a broader sense. Finally, the study had the purpose of providing a base for more sophisticated and refined research on the labor market and mobility of occupational educators.

A mailed survey was conducted to provide a 2 percent representative sampling of the public school occupational educators in the United States. The sample included educators from 111 regular and comprehensive high schools, 56 specialized vocational schools, and 68 junior and senior colleges in 48 states and the District of Columbia. In addition to surveying the occupational educators currently employed by these schools, a follow-up study was made of the occupational educators who had left the schools in the study within the last five years. This phase of the study was limited to the usable names and addresses which were furnished by the schools in the larger survey. Usable responses were received from 2,777 of the 3,780 educators in the initial sample, and from 148 of the 238 educators who had left the schools in the study, accounting for a 72.8 percent return overall.

For purposes of analysis, the sample was grouped in three ways: by type of school (three categories), by area of specialization (nine categories), and by the mobility variable (two categories). The mobility variable dichotomized the employed educators on the basis of whether or not they expected to be employed in the same school five years from the time of the study. Those who had left were, of course classified as mobile. Information was gathered about 57 variables in six general areas: demographic and childhood, geographic, previous education, work-related, previous employment, and professional identity and educational plans.

The analysis consisted of three phases: (1) chi-square significance tests were applied to a comparison between the mobility variable and each of the 57 variables for each of the types of schools; (2) chi-square tests were again used to test the comparison between the mobility variable and each of the 57 variables for each of the nine areas of specialization; (3) discriminant analysis was utilized to identify the variables which discriminated best between the mobile and stable groups in each area of specialization.

Summary of the Results

Of the total number of respondents who qualified for analysis (persons who were planning to retire were excluded from the analysis), 33.3 percent were classified as mobile with the range among the school types distributed as follows: regular and comprehensive high schools, 35.5 percent mobile; specialized vocational schools, 34.0 percent mobile; and colleges, 31.3 percent mobile. Table 5.1 shows the percentage of educators who were classified as mobile in each area of specialization.

Since the results of the chi-square tests can be misleading because of the intercorrelations that are present in a large group of variables, discriminant analysis was also used in the analyses by area of specialization. In this summary, only the significant discriminant analyses are reported. Table 5.2 exhibits, in summary fashion, the order of those variables in the discriminant analyses which were weighted half or more than half of the weight of the variable with the largest weight. These variables were found to be

TABLE 5.1

DISTRIBUTION OF EDUCATORS AMONG THE AREAS OF SPECIALIZATION AND PERCENT MOBILE

Specialization	Total number in study[1]	Percent Mobile
1. Technical educators	111	28.8
2. Total program administrators	231	29.0
3. Trade and industrial educators	1015	30.9
4. Related curriculum educators	74	33.8
5. Health occupations educators	338	34.6
6. Vocational counselors	149	34.9
7. Applied biological and agricultural educators	119	35.3
8. Personal and public service educators	239	36.0
9. Business, marketing, and management educators	501	38.1
Total	2777	33.3

[1] Total number of qualified educators; these figures exclude educators who were planning to retire in the next five years and those whose responses were insufficient for classification.

the best discriminators, and, in this table, have been rank ordered and stated to describe the stable educators. If the reader prefers to think in terms of mobile educators, the wording of the variable can be changed to be opposite its present meaning, e.g., by changing "more" to "less", "older" to "younger," etc.

TABLE 5.2

SUMMARY TABLE OF MAJOR DISCRIMINATORS DESCRIBING THE STABLE GROUPS IN SEVEN AREAS OF SPECIALIZATION, RANKED BY POWER[1]

Variable	Area of Specialization						
	App. Bio. & Agri.	Business	Health	Trade & Ind.	Pers. & Pub. Serv.	Counselor	Adm., Coord.
2. Tend to be older[2]	7	2	9		1	1	1
4. Are more often married	5						
8. Tend to have less highly educated fathers	6		3				
9. Tend to have fathers with higher socioeconomic status			5				
10. Fathers more likely to be farmer or blue collar worker					7		
34. Tend to draw higher monthly salaries	8		6	2			3
18. Tend to be living closer to parents	9						

TABLE 5.2 (Continued)

Variable	Area of Specialization						
	App. Bio. & Agri.	Business	Health	Trade & Ind.	Pers. & Pub. Serv.	Counselor	Adm., Coord.
22a. Tend to have had higher interstate mobility	11						
b. Tend to have had lower interstate mobility					2		
43a. Tend to have less non-educational work experience					5		
b. - more noneducational work experience			7				
45a. Tend to have been employed in education for a shorter period of time	2						2
b. - for a longer period of time			2		4		
46. Tend to have previous educational jobs of longer average duration	1	1		1			
48. More often changed educational employment from same size or smaller school		3					
25. More likely had nonvocational undergraduate major	3						
26. Tend to have a lower education	12		1				

TABLE 5.2 (Continued)

Variable	Area of Specialization						
	App. Bio. & Agri.	Business	Health	Trade & Ind.	Pers. & Pub. Serv.	Counselor	Adm., Coord.
27a. Method of teacher preparation less often part of degree program							
b. - more often part of degree program	4				6		
29. Method of vocational skill development more often a part of formal education					8		
53. Tend to hold more vocational association memberships			4				
57. Tend to have higher educational orientation	10	4					
50. More often worked for some time before getting formal education			8		3		

[1] Only variables which were more than half the weight of the largest weight in each group are included in this table. The two areas of specialization for which the discriminant functions were not significant have been excluded.

[2] All comparisons are in relation to mobile educators in each respective area of specialization.

The Use of This Study by Local Administrators

The first purpose of this study was to provide or generate information which would be helpful for the local occupational program administrator in hiring personnel and in meeting in-service education needs. The discussion in which chi-square tests and discriminant analysis were compared should make the reader well aware of the limited nature of chi-square interpretation and the potential danger in placing too much weight on chi-square results. However, in the case where information on only a very few variables is available and those variables are not important variables in the discriminant analysis, one could fall back on the chi-square findings, realizing, however, the inherent weaknesses of that univariate technique.

A discriminant function can be used accurately as a linear equation only when information on all the discriminant variables is available and available in the same form as it was in the original formulation of the function. If an administrator wished to use the discriminant functions in this study, he would need to gather information on the 21 variables which were used in the discriminant analyses, and would need to use the precise value designations as given in Appendix B for the respective variables. Having this information in hand, the administrator, who is, let us say, selecting between two applicants for a health occupations position, would proceed as follows:

1. Examine Table 4.20 and note that the discriminant weights means are 3.524 for the stable group and 4.155 for the mobile group; also note the discriminant weights which form the linear equation, .249 (variable 2) + .299 (variable 8) - .278 (variable 9) - .073 (variable 11) and so on to the end of the column.

2. The values of the respective variables gathered from each applicant would be placed in the parenthesis in the preceding sentence so that each applicant would be represented by a linear equation.
3. The calculated sum of each equation would be compared to the two means of the discriminant weights: 3.524 for the stable group and 4.155 for the mobile group. If the discriminant function of applicant A is closer to the lower mean while the function of applicant B is closer to the higher mean, applicant A, from a statistical point of view, would more likely be a stable employer.

Although the discriminant analysis technique is developed to a stage where it can be used as just explained, the use of the linear equation may be of questionable utility because of the aggregated nature of most of the specialty areas used in this study. Perhaps the groups which are most internally homogeneous and, therefore, for which the discriminant functions would be most accurate and useful, are the agricultural and applied biological occupations, the technical educators, and the trade and industrial educators. The homogeneity of the vocational counselors and the program administrators was not clarified in the study, and the remaining specialties used in this study are obviously aggregated.

Another limitation to the use of the discriminant functions which should be noted is that no attempt was made to determine the reliability of the functions, i.e., to determine the percentage of time that someone who is labeled "mobile" on the mobility variable, has a linear equation sum closer to the discriminant weights mean for mobile educators.

In spite of these limitations, the study contributed substantially to an understanding of the employment mobility of occupational educators. In addition, the use of the discriminant analysis appears promising for future research in this field. Recommendations for refining this technique and for improving the utility of this study are made in the latter sections of this chapter.

Comparison of Occupational Educators to Other Labor Market Groups

In response to the second purpose of the study, the analyses of the occupational education groups can be reviewed for the purpose of determining ways in which occupational educators are like or unlike other groups in the labor market. The discriminant weights reveal that:

1. Occupational educators, as a whole, have patterns of employment mobility that are similar to those of the labor force in general as revealed in the review of related research. Eight variables support this statement.
    - In all seven of the significant discriminant functions, individuals who were drawing lower salaries tended to have a greater propensity toward employment mobility (#34).
    - In six of the seven areas of specialization, young educators had a greater propensity toward changing employment than did older educators (#2).
    - In six of the seven significant discriminant functions, individuals who held fewer vocational association memberships tended to be more mobile (#53).

If one can assume that vocational association membership is an indicator of occupational identity, this finding is in general agreement with the review of literature which revealed that the more occupational identity one has, the more likely one is to stay in that occupation, and vice versa.

- In five of the seven groups, the individuals who had more highly educated fathers tended to be more mobile than those who had fathers with lower educational attainment (#8).
- In five of the seven groups, persons living farthest from their parents had a greater propensity toward employment mobility than did their colleagues who were living nearer their parents (#18).
- In five of the seven groups, persons with a work history of educational jobs of shorter average duration tended to be more mobile than those who held previous educational jobs for a longer period of time on the average (#46).
- In five of the seven groups, individuals with higher educational attainment tended to be more mobile than did their less educated counterparts (#26).

2. Conversely, several factors normally associated with employment mobility were not conclusively associated with higher mobility among the occupational educators. In the discriminant analyses,

the following variables, with the exception of the last one considered, failed to produce relationships in the directions anticipated in more than four of the seven discriminant functions.

- Father's socioeconomic status (#9).
- Father's occupation (#10).
- Previous interstate mobility (#22).
- Mother's education (#11).
- In five of the seven groups, individuals who had been employed in education over a longer period of time tended to be more mobile than those who had a work history of fewer years in educational employment (#45). This finding was contrary to expectations. (See Appendix A, Table 29.)

3. Some of the variables selected for this study apparently had not been used in studies of other sectors of the labor force. Hence, comparisons could not be made. Two of these variables proved to be important as indicated by the discriminant weights assigned to them.
   - In all seven groups, individuals who changed educational employment from a larger institution to a smaller institution tended to be more inclined toward mobility than were those who changed to a similar size or larger school (#48).
   - In six of the seven groups, individuals who worked for little or no time before getting their formal education had a greater propensity toward employment mobility than did the individuals who worked for a

longer period before getting their formal education (#50).

4. Several variables were found to contribute little in the discriminant analyses, and what little contribution they did make was not consistently in the same direction. These variables were:
   - The nature of the respondent's undergraduate major (#25).
   - The method of teacher preparation (#27).
   - Amount of noneducational work (#43).
   - The method of vocational skill development (#29).

Conclusions

1. Discriminant analysis is an appropriate tool to use in distinguishing between mobile and stable educators. The most effective discriminators, with intercorrelations partialed out, can be identified by this statistical method.
2. Employment mobility as defined herein, varies by school type with high school occupational educators indicating the highest degree of mobility; and by area of specialization with business educators being most mobile (38.1 percent) and technical educators (28.8 percent) and total program administrators (29.0 percent) indicating the least mobility. Age was negatively correlated with the mobility rankings of the nine areas as shown in Table 4.11.
3. While several specific factors, which discriminated well between the stable and mobile groups within each area of specialization, were present in most of the discriminant functions, considerable variation was evidenced among the discriminating variables and

the weights given to each. This finding suggests that the occupational educators in the different specialties do tend to relate differently to the mobility variable and, therefore, should be studied independently as was done here or, perhaps, even further disaggregated.

4. Minority groups were under-represented with only 5 percent of the sample identifying themselves as nonwhites and 31 percent identifying themselves as females. Only 8.7 percent of the administrators of total programs were females.

5. The factors associated with employment mobility of occupational educators are, for the most part, the same as those for other sectors of the labor force, i.e., mobile occupational educators as a whole tended to be younger, tended to draw lower salaries, tended to hold fewer vocational association memberships (lower occupational identity), tended to have had fathers with higher educational attainment, tended to be living farther from their parents, tended to have a work history of educational jobs of shorter average duration, and tended to have higher educational attainment.

   Contrary to the findings in most other studies, "mobile" occupational educators in five of the seven areas tended to have been employed in education over a longer period of time than were their "stable" counterparts.

6. Career sequence was an important factor in several areas of specialization and should be considered in future studies of mobility. Although many orders of career sequence are conceivable, this study used a simplified sequence that consisted primarily of two elements--work and formal education--which preceded occupational

education employment. The presence of one or both and their order constituted the values possible. The summary indicated that, as a whole, mobile educators were more likely to have a career sequence with little or no work prior to a formal education. But this sequence masks a rather important fact: in all seven of the curriculum areas, the educators who tended to be most mobile were those who had received their teacher preparation by the more atypical method, i.e., the method used least frequently by members of that specialty. While this factor was not weighted heavily in most of the discriminant functions, the consistency of its relationship to the mobility variable cannot be overlooked (see Appendix A, Table 23).

Recommendations For Further Study

An important function of all research is to identify and refine questions. As expected, this study, while it provided a clearer picture of the employment mobility of occupational educators, raised further questions regarding the subject. These questions suggest the need for further research in the following areas:

1. While it may have seemed that this study assumed that a local administrator should hire the individual who would be least likely to leave, such is not the case. No attempt has been made in the study to identify the "desirable" amount of employment mobility. Further research is needed to determine the amount of employment mobility which will maximize the positive effects of mobility while minimizing the negative effects. It is hypothesized that the level of "desirable" mobility may vary among the areas of specialization dependent somewhat on the rate of change within the subject matter fields represented.

2. In this study, 57 variables were entered in the chi-square analyses, and 21 were utilized in the discriminant analyses. More research needs to be completed to identify the most effective set of discriminators for use by manpower planners, local administrators, and educators of educators. It is very likely that the sets of variables that serve as the best discriminators in each of the areas of specialization are not alike for all geographic areas and for all purposes for which mobility estimates are needed.
3. Further research is needed to determine the effects of state certification requirements on the mobility of occupational educators. This issue was not examined in this study because of its apparent magnitude and complexity. Certainly, interstate mobility is directly affected by differences in state requirements, but more subtle effects probably occur within states.
4. Additional replicative studies are needed to support or reject the findings of this study. Although the size of the study was large, several groups were relatively small. The two discriminant analyses which were not significant involved the smallest two groups in the study. Thus, it is recommended that each group should have an N of 200 or more, with 500 to 1000 being a more desirable range. The problems of studying an aggregate of home economics teachers, police science teachers, and cosmetologists as if they were the same population, and the problems of combining high school educators with technical college personnel as if they belong together, have already

been discussed. Where sample size permits, a break-down of the curriculum areas and school types would seem to provide for more refined analysis and, thus, more useful results.

5. A follow-up study is recommended to determine the validity and reliability of the mobility variable definition used here, i.e., to determine how many of those educators who expected to move within the next five years actually did so, and how many who said they did not expect to move actually moved. If this definition proves to be inadequate, it may be necessary to move to a longitudinal study which measures actual mobility.
6. Table 5.3 reveals that the mobile educators in two curriculum areas less often received their teacher preparation as part of a degree program (variable #27). This was also true for a third group, but its discriminant weight was too low to show in the summary table. However, the fact that this variable enters into the discriminant functions at all suggests that current programs of in-service education may not be providing all of the kinds of education needed by all groups.
7. Variable 45 (Table 5.2) proved to carry considerable discriminant weight in four of the seven areas of specialization in a direction contrary to expectations. The analyses revealed that in these areas of specialization, the individual who had worked a longer period of time in education tended to be more mobile (intercorrelations with age and other variables had been partialed out). Further study is needed to determine the causes of this apparent anomaly.

8. The effects of recruiting techniques on the mobility of occupational educators is another area suggested for research. Questions which could be asked include: are administrators restricting their manpower search geographically or otherwise to a degree that creates difficulty in locating qualified occupational educators? How can the information and recruiting network be made more productive and efficient?

9. The lack of geographic mobility among occupational educators was noted in the chi-square analysis. Further research is needed to determine if this fact is a hinderance to providing good education in some or all areas of occupational specialization. If it is determined to have a negative affect on occupational education, the cause(s) of the low mobility should be studied and corrective measures identified.

10. In the chi-square analyses, a higher mobility rate was identified in the North Central region, although higher rates of population growth are found in the West and South. Since mobility in this study is primarily a measure of expectations, the question is raised as to whether the differences found are simply differences in expectations which do not correspond with real mobility. But, if the difference between expected and real mobility is greatest in the North Central region, why is this the case? In addition, why are there such differences among the groups within a region, particularly in the West?

11. More study is needed to identify the reasons why someone who had moved from a larger school to a smaller school appears to have a greater propensity toward employment mobility than those of his

colleagues who moved between schools of equal size or moved from a smaller to a larger school. While it was speculated originally that the reasons may be associated with financial aspects of a job, the discriminant analysis has partialed out salaries, per se, but still shows this variable to be one of the best discriminators between mobile and stable educators.

12. An observation was made in Chapter IV in regard to the method of teacher preparation (part of a degree program or not part of a degree program). The data revealed that in all seven curriculum areas, mobility was highest in that group which was atypically small in terms of the method by which they received their teacher preparation. Hence, if most educators in a curriculum area received their teacher preparation through a degree program, they would tend to be more stable (less mobile) than the minority who had received their preparation through a nondegree program. Conversely, if most educators in a curriculum area had received their teacher education through a nondegree program, they tended to be more stable than the minority who had received teacher education as part of a degree program. Further research is necessary to fully explain this phenomenon.

Occupational educators have been researched often in terms of the materials and equipment they use, but research on the behavior of occupational educators in the labor market has lagged behind. While this study was restricted by time, funds, and a lack of previous research, much information was collected, some of the important parts of these data were analyzed, and a base has been laid for more refined research.

Suggested Recommendations for Policy Formulation and Change

This and other studies of the employment mobility of occupational educators clearly identify some needs which are best solved through policy formulation or change. Some of the needs, however, are not so clearly visible and have been extrapolated from the data. Although the evidence supporting each of the following recommendations is not conclusive, the data which are available seem to warrant the points that follow.

A. Reference was made in the chi-square analysis to the low geographic mobility of occupational educators. Several factors probably contribute to this situation:

- Inadequate means by which information about job openings and qualified personnel is disseminated.
- Teacher certification and pension regulations which make it difficult for an individual to move freely across state lines in the occupational educators' labor market.
- The comparatively low socioeconomic background of many vocational education personnel.

These factors suggest that:

1. A regional and/or national clearing house system should be established to collect and disperse information regarding openings and qualified personnel.
2. The states should be encouraged to standardize their teacher certification procedures and regulations. Perhaps funding agencies should exert leverage to bring about this change. Similar pressure may be needed to increase portability of pension benefits.
3. Available programs such as the Education Professions Development

Act should be structured to emphasize opportunities for geographic mobility and to encourage the development of labor market participation skills, especially for those from lower socioeconomic backgrounds who are often least mobile and are most reluctant to continue their professional education.

B. Differences in the variables which entered the discriminant functions and in their weights as well as the differences that surfaced in the chi-square analyses reinforce the hypothesis that occupational educators from different specialties often have different backgrounds and different needs. Most pre-service and in-service education programs, however, are based on the assumption that all occupational educators have the same or very similar educational needs (other than vocational skills needs). This discrepancy suggests that:

4. Programs need to be organized or existing programs funded, e.g., Section 554 of Part F of the Education Professions Development Act, to encourage the creation of curriculum materials for individualized, open-entry, open-exit, in-service instruction of full-time and part-time occupational instructors who lack training in organizing, presenting, and evaluating the courses they teach. Additionally, school administrators should be educated regarding the unique problems of occupational educators.

C. The sample in this study was only 5 percent nonwhite. Furthermore, both females and ethnic minorities were grossly under-represented in the administrative ranks. This suggests that:

5. Program planners and funding agencies must do more than simply encourage minorities to enter and progress in

occupational education. Program administrators should make concerted efforts to locate and recruit qualified minority personnel. A major priority of some existing programs, e.g., Part B of the EPDA, should be the identification of prospective vocational instructors from minority groups, and the provision of funds for students, colleges, and employers to implement cooperative or other innovative programs to provide these badly needed professionals in the shortest possible time while insuring that they perform satisfactorily.

D. The review of literature reveals a scarcity of qualified manpower planners in the field of occupational education, yet the need for manpower planning becomes increasingly crucial in an economy such as ours in which occupational skills shift rapidly and new jobs are created daily.

6. Monetary support should be mandated to underwrite the development of programs with the express purpose of developing manpower planners for the total field of occupational education.

E. While the call to action programs is clear, the need for continued funding of research on occupational teacher education is also clear. The previous section details a number of important issues which were identified in this study.

7. Coordination and discrimination of research efforts on occupational teacher education is of utmost importance to prevent unnecessary duplication and wasted monies, and to insure that maximum use is made of previous research. It seems anomalous that one of the most successful agencies

for synthesis and dissemination of research findings, the Ohio State University ERIC center in vocational and technical education, has been abolished. Lack of funding of the research sections of the Education Professions Development Act is also anomalous, since programs are funded without full knowledge of the needs of teachers or the needs for teachers.

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APPENDIX A

TABLE 1

DISTRIBUTION OF PARTICIPATING SCHOOLS BY STATE

Region	State	Number of Schools By Type		
		HS	Voc	Col
I	1. Me.	-	1	-
	2. N. H.	-	-	1
	3. Vt.	-	1	-
	4. Mass.	2	-	2
	5. R. I.	-	1	-
	6. Conn.	5	-	1
	Total	7	3	4
II	7. N. Y.	7	1	14
	8. N. J.	4	2	1
	9. Pa.	7	4	-
	Total	18	7	15
III	10. Ohio	3	2	-
	11. Ind.	2	1	-
	12. Ill.	11	3	5
	13. Mich.	5	-	2
	14. Wis.	2	3	2
	Total	23	9	9
IV	15. Minn.	2	1	1
	16. Ia.	1	-	1
	17. Mo.	1	3	2
	18. N. Dak.	2	-	1
	19. S. Dak.	-	1	1
	20. Neb.	1	-	1
	21. Kans.	3	2	-
	Total	10	7	7
V	22. Del.	-	1	-
	23. Md.	3	-	3
	24. D. C.	2	1	-
	25. Va.	1	1	1
	26. W. Va.	-	2	1
	27. N. C.	2	1	1
	28. S. C.	3	1	-
	29. Ga.	1	1	1
	30. Fla.	5	2	2
	Total	17	10	9
VI	31. Ky.	1	1	-
	32. Tenn.	2	2	-
	33. Ala.	2	-	1
	34. Miss.	2	-	4
	Total	7	3	5
VII	35. Ark.	3	2	1
	36. La.	1	3	-
	37. Okla.	2	2	2
	38. Tex.	2	1	4
	Total	8	8	7
VIII	39. Mont.	-	1	-
	40. Ida.	1	-	-
	41. Wyo.	1	-	1
	42. Colo.	3	1	2
	43. N. Mex.	-	-	-
	44. Ariz.	-	-	-
	45. Utah	1	-	1
	46. Nev.	1	-	-
	Total	7	2	4
IX	47. Wash.	4	4	3
	48. Ore.	3	1	1
	49. Calif.	5	1	3
	50. Alas.	1	1	-
	51. Hi.	1	-	1
	Total	14	7	8
	GRAND TOTAL	111	56	68

TABLE 2

DISTRIBUTION OF SCHOOLS WHICH RETURNED USEABLE LISTS OF LEAVERS - BY TYPE AND REGION

Type of School	Region									Totals
	1	2	3	4	5	6	7	8	9	
Regular and comprehensive high schools	1	4	7	2	3	2	2	1	2	24
Specialized vocational schools	1	3	4	4	4	1	3	0	1	21
Colleges	1	4	2	1	3	1	1	1	3	17
TOTALS	3	11	13	7	10	4	6	2	6	62

TABLE 3

PERCENTAGE DISTRIBUTION OF MOBILE AND STABLE EDUCATORS BY AGE AND SCHOOL TYPE

Mobility Group	Age Group				Total Number
	20-29	30-39	40-49	50-75	
Regular and comprehensive high schools					
Stable educators	23.1	47.1	67.0	78.9	
Mobile educators	76.9	52.9	33.0	21.1	
Number in group	13	206	197	261	677
Specialized vocational schools					
Stable educators	33.3	45.9	63.3	76.4	
Mobile educators	66.7	54.1	36.7	23.6	
Number in group	9	207	300	501	1017
Colleges					
Stable educators	41.7	46.1	65.9	83.9	
Mobile educators	58.3	53.9	34.1	16.1	
Number in group	12	256	314	441	1023

TABLE 4

SOCIOECONOMIC STATUS OF RESPONDENTS' FATHERS COMPARED WITH MOBILITY VARIABLE, TYPE OF SCHOOL HELD CONSTANT

(Percents)

Mobility Group	Socioeconomic status quartile				Percent of group
	1	2	3		
Regular and comprehensive high schools: n = 662					
Stable educators	65.7	63.0	68.4	61.5	64.7
Mobile educators	34.3	37.0	31.6	38.5	35.3
Percent of group	26.9	24.9	23.9	24.3	100.0
Specialized vocational schools: n = 972					
Stable educators	68.0	71.4	62.1	57.8	65.3
Mobile educators	32.0	28.6	37.9	42.2	34.7
Percent of group	27.4	26.6	25.5	20.5	100.0
Colleges: n = 984					
Stable educators	71.1	68.6	74.5	59.9	68.0
Mobile educators	28.9	31.4	25.5	40.1	32.0
Percent of group	22.2	23.0	24.7	30.2	100.0

TABLE 5

FATHER'S OCCUPATION COMPARED WITH MOBILITY VARIABLE, TYPE OF SCHOOL HELD CONSTANT

(Percents)

Mobility Group	Father's occupation			Percent of group
	Farm	Blue Collar	White Collar	
Regular and comprehensive high schools: n = 641				
Stable educators	62.5	67.6	64.1	64.9
Mobile educators	37.5	32.4	35.9	35.1
Percent of group	23.7	33.2	43.1	100.0
Specialized vocational schools: n = 931				
Stable educators	68.7	69.3	59.1	65.1
Mobile educators	31.3	30.7	40.9	34.9
Percent of group	21.6	38.5	40.0	100.0
Colleges: n = 953				
Stable educators	74.3	69.1	64.4	67.7
Mobile educators	25.7	30.9	35.6	32.3
Percent of group	17.9	32.2	49.8	100.0

TABLE 6

DISTANCE CURRENT JOB IS FROM RESPONDENT'S HOMETOWN COMPARED WITH MOBILITY VARIABLE, BY TYPE OF SCHOOL

(Percents)

Mobility Group	Miles					Percent of group
	LT 25	25-100	100-200	200-500	GT 500	
Regular and comprehensive high schools: n = 647						
Stable educators	73.6	68.5	64.3	57.1	63.8	67.7
Mobile educators	26.4	31.5	35.7	42.2	36.2	32.3
Percent of group	37.4	22.6	10.8	13.0	16.2	100.0
Specialized vocational schools: n = 954						
Stable educators	75.4	73.9	65.0	68.1	59.9	70.2
Mobile educators	24.6	26.1	35.0	31.9	40.1	29.8
Percent of group	35.8	22.1	12.9	12.2	17.0	100.0
Colleges: n = 977						
Stable educators	80.9	73.6	69.3	66.9	63.6	72.0
Mobile educators	19.1	26.4	30.7	33.1	36.4	28.0
Percent of group	28.4	21.3	14.0	16.4	20.0	100.0

TABLE 7

REGION OF THE COUNTRY COMPARED WITH MOBILITY VARIABLE, BY TYPE OF SCHOOL

(Percents)

Mobility Group	Region				Percent of group
	North East	North Central	South	West	
Regular and comprehensive high schools: n = 691					
Stable educators	70.6	58.3	71.3	61.5	64.5
Mobile educators	29.4	41.7	28.7	38.5	35.5
Percent of group	18.2	36.5	25.8	19.5	100.0
Specialized vocational schools: n = 1050					
Stable educators	69.9	54.6	71.3	71.4	66.0
Mobile educators	30.1	45.4	28.7	28.6	34.0
Percent of group	20.9	30.0	33.1	16.0	100.0
Colleges: n = 1047					
Stable educators	73.0	66.2	68.3	65.2	68.7
Mobile educators	27.0	33.8	31.7	34.8	31.3
Percent of group	28.3	22.6	34.0	15.1	100.0

TABLE 8

PAST GEOGRAPHIC MOBILITY COMPARED WITH MOBILITY VARIABLE, BY TYPE OF SCHOOL

(Percents)

Mobility Group	Number of states[1]				Percent of group
	One	Two	Three	Four	
Regular and comprehensive high schools: n = 615					
Stable educators	64.0	67.3	67.7	57.1	64.2
Mobile educators	36.0	32.7	32.3	42.9	35.8
Percent of group	52.8	18.4	15.1	13.7	100.0
Specialized vocational schools: n = 965					
Stable educators	69.9	68.9	55.2	56.9	65.9
Mobile educators	30.1	31.1	44.8	43.1	34.1
Percent of group	49.6	23.3	15.0	12.0	100.0
Colleges: n = 975					
Stable educators	75.1	62.9	67.0	59.6	68.5
Mobile educators	24.9	37.1	33.0	40.4	31.5
Percent of group	44.0	20.7	19.3	16.0	100.0

[1] Number of states represented by home community of respondent's youth, present community, previous job community, and community of undergraduate education.

TABLE 9

RESPONDENT'S EDUCATIONAL ATTAINMENT COMPARED WITH MOBILITY VARIABLE, BY TYPE OF SCHOOL

(Percents)

Mobility Group	Formal education attained[1]						Percent of group
	One	Two	Three	Four	Five	Six	
Regular and comprehensive high schools: n = 691							
Stable educators	66.7	69.8	42.9	61.2	66.8	67.9	64.5
Mobile educators	33.3	30.2	57.1	38.8	33.2	32.1	35.5
Percent of group	2.2	9.1	1.0	41.8	41.8	4.1	100.0
Specialized vocational schools: n = 1042							
Stable educators	77.4	73.5	71.4	58.1	63.4	59.1	65.8
Mobile educators	22.6	26.5	28.6	41.9	36.6	40.9	34.2
Percent of group	3.0	27.5	8.7	26.1	32.5	2.1	100.0
Colleges: n = 1045							
Stable educators	100.0	79.3	76.3	66.5	65.8	65.4	68.6
Mobile educators	0.0	20.7	23.7	33.5	34.2	34.6	31.4
Percent of group	1.4	10.6	7.3	23.4	47.3	10.0	100.0

[1] 1 = High school graduate; 2 = some post-secondary education, but no degree; 3 = associate or three-year degree; 4 = bachelor's degree; 5 = master's degree; 6 = six-year degree or doctorate.

TABLE 10

THE NUMBER OF YEARS THE RESPONDENT HAD BEEN IN HIS RESPECTIVE SCHOOL SYSTEM COMPARED WITH THE MOBILITY VARIABLE, BY TYPE OF SCHOOL

(Percents)

Mobility Group	Years in system					Percent of group
	GT 12	10-12	7-9	4-6	1-3	
Regular and comprehensive high schools: n - 636						
Stable educators	85.1	80.9	73.6	57.3	47.7	64.9
Mobile educators	14.9	19.1	26.4	42.7	52.3	35.1
Percent of group	24.2	10.7	8.3	25.8	31.0	100.0
Specialized vocational schools: n = 986						
Stable educators	83.4	64.2	78.4	64.9	54.1	65.4
Mobile educators	16.6	35.8	21.6	35.1	45.9	34.6
Percent of group	16.5	8.2	11.3	26.9	37.1	100.0
Colleges: n = 973						
Stable educators	94.5	81.3	82.2	70.4	54.0	67.7
Mobile educators	5.5	18.7	17.8	29.6	46.0	32.3
Percent of group	11.2	7.7	7.5	30.2	43.4	100.0

TABLE 11

ADJUSTED MONTHLY INCOME COMPARED WITH MOBILITY VARIABLE, BY TYPE OF SCHOOL

(Percents)

Mobility Group	Adjusted monthly income					Percent of group
	$1500 & up	$1300-1499	$1100-1299	$900-1099	LT $900	
Regular and comprehensive high schools: n = 679						
Stable educators	77.1	73.4	73.7	61.3	56.0	64.9
Mobile educators	22.9	26.6	26.3	38.7	44.0	35.1
Percent of group	10.3	13.8	17.4	24.0	34.5	100.0
Specialized vocational schools: n = 1032						
Stable educators	74.2	83.8	66.5	65.2	58.2	65.8
Mobile educators	25.8	16.2	33.5	34.8	41.8	34.2
Percent of group	8.6	9.6	19.7	30.6	31.5	100.0
Colleges: n = 1031						
Stable educators	82.2	77.3	68.2	59.7	61.4	68.5
Mobile educators	17.8	22.7	31.8	40.3	38.6	31.5
Percent of group	19.1	13.7	19.5	23.1	24.6	100.0

TABLE 12

THE AVERAGE LENGTH OF PREVIOUS EDUCATIONAL JOBS COMPARED WITH THE MOBILITY VARIABLE, BY TYPE OF SCHOOL

(Percents)

Mobility Group	Average length of past school jobs-years				Percent of group
	GT 7.0	4.1-7.0	2.1-4.0	1.0-2.0	
Regular and comprehensive high schools: n = 642					
Stable educators	85.3	70.6	56.7	46.7	64.8
Mobile educators	14.7	29.4	43.3	53.3	35.2
Percent of group	24.3	25.4	26.6	23.7	100.0
Specialized vocational schools: n = 953					
Stable educators	81.6	75.4	59.5	52.3	66.0
Mobile educators	18.4	24.6	40.5	47.7	34.0
Percent of group	18.8	26.0	30.5	24.7	100.0
Colleges: n = 974					
Stable educators	90.5	77.3	65.4	49.8	68.1
Mobile educators	9.5	22.7	34.6	50.2	31.9
Percent of group	15.2	25.8	32.0	27.0	100.0

TABLE 13

THE CHANGE IN SCHOOL ENROLLMENT FROM RESPONDENT'S LAST JOB TO HIS CURRENT JOB COMPARED WITH MOBILITY VARIABLE, BY TYPE OF SCHOOL

(Percents)

Mobility Group	Comparison of school sizes			Percent of group
	Prev. school larger	same	Present school larger	
Regular and comprehensive high schools: n = 690				
Stable educators	40.7	68.0	67.8	64.6
Mobile educators	59.3	32.0	32.2	35.4
Percent of group	11.7	10.9	77.4	100.0
Specialized vocational schools: n = 1039				
Stable educators	50.0	69.6	69.0	66.2
Mobile educators	50.0	30.4	31.0	33.8
Percent of group	15.0	12.0	73.0	100.0
Colleges: n = 1042				
Stable educators	43.2	71.4	72.8	68.7
Mobile educators	56.8	28.6	27.2	31.3
Percent of group	13.3	8.7	77.9	100.0

TABLE 14

RESPONDENT'S CAREER SEQUENCE PRIOR TO ENTERING OCCUPATIONAL EDUCATION COMPARED WITH THE MOBILITY VARIABLE, BY TYPE OF SCHOOL

(Percents)

Mobility Group	Career Sequence[1]				Percent of group
	One	Two	Three	Four	
Regular and comprehensive high schools: n = 642					
Stable educators	60.7	70.4	65.0	76.2	64.8
Mobile educators	39.3	29.6	35.0	23.8	35.2
Percent of group	46.4	19.5	27.6	6.5	100.0
Specialized vocational schools: n = 956					
Stable educators	64.1	61.7	65.0	76.4	66.1
Mobile educators	35.9	38.3	35.0	23.6	33.9
Percent of group	20.4	32.2	26.6	20.8	100.0
Colleges: n = 979					
Stable educators	65.7	68.6	64.7	84.5	68.1
Mobile educators	34.3	31.4	35.3	15.5	31.9
Percent of group	23.5	39.0	28.9	8.6	100.0

[1] 1 = Formal education to vocational education; 2 = formal education to work to vocational education; 3 = work to formal education to vocational education, also patterns with many alternations; 4 = work to vocational education.

TABLE 15

RESPONDENT'S CHOICE OF ASSOCIATES COMPARED WITH THE MOBILITY VARIABLE, BY TYPE OF SCHOOL

(Percents)

Mobility Group	Location of associates: In Education	Location of associates: Outside Education	Percent of group
Regular and comprehensive high schools: n = 656			
Stable educators	65.3	64.3	64.6
Mobile educators	34.7	35.7	35.4
Percent of group	33.4	66.6	100.0
Specialized vocational schools: n = 998			
Stable educators	62.9	69.0	66.3
Mobile educators	37.1	31.0	33.7
Percent of group	43.2	56.8	100.0
Colleges: n = 991			
Stable educators	65.7	71.4	69.2
Mobile educators	34.3	28.6	30.8
Percent of group	38.2	61.8	100.0

TABLE 16

THE DEGREE SOUGHT BY THE RESPONDENT COMPARED WITH THE MOBILITY VARIABLE, BY TYPE OF SCHOOL

(Percents)

Mobility Group	Degree sought[1]				Percent of group
	One	Two	Three	Four	
Regular and comprehensive high schools: n = 682					
Stable educators	66.2	68.6	59.4	65.7	64.7
Mobile educators	33.8	31.4	40.6	34.3	35.3
Percent of group	58.5	7.5	24.2	9.8	100.0
Specialized vocational schools: n = 1019					
Stable educators	68.3	71.5	56.4	51.4	65.8
Mobile educators	31.7	28.5	43.6	48.6	34.2
Percent of group	50.7	24.4	17.6	7.3	100.0
Colleges: n = 1032					
Stable educators	69.0	81.5	64.8	61.5	68.6
Mobile educators	31.0	18.5	35.2	38.5	31.4
Percent of group	53.4	13.1	15.4	18.1	100.0

[1] 1 = None; 2 = Bachelor's or less; 3 = Master's degree; 4 = six-year degree or doctorate.

TABLE 17

RESPONDENT'S AGE COMPARED WITH THE MOBILITY VARIABLE,
BY AREA OF SPECIALIZATION

(Percents)

Mobility Group	Age in years				Percent of group
	20-29	30-39	40-49	GT 49	
Agriculture and applied biological education: n = 116					
Stable educators	66.7	48.9	65.6	86.1	65.5
Mobile educators	33.3	51.1	34.4	13.9	34.5
Percent of group	2.6	38.8	27.6	31.0	100.0
Business, marketing, and management education: n = 490					
Stable educators	33.3	39.5	61.4	82.1	61.4
Mobile educators	66.7	60.5	38.6	17.9	38.6
Percent of group	1.8	32.0	29.6	36.5	100.0
Health occupations education: n = 332					
Stable educators	00.0	45.8	68.3	77.0	65.4
Mobile educators	100.0	54.2	31.7	23.0	34.6
Percent of group	0.9	25.0	36.1	38.0	100.0
Technical education: n = 111					
Stable educators	100.0	42.9	68.4	84.0	71.2
Mobile educators	0.0	57.1	31.6	16.0	28.8
Percent of group	1.8	18.9	34.2	45.0	100.0
Trade and industrial oriented education: n = 977					
Stable educators	40.0	51.2	65.9	78.1	68.9
Mobile educators	60.0	48.8	34.1	21.9	31.1
Percent of group	0.5	20.8	28.2	50.5	100.0
Personal and public service occupations education: n = 231					
Stable educators	14.3	42.7	68.5	83.2	64.5
Mobile educators	85.7	57.3	31.5	16.8	35.5
Percent of group	3.0	32.5	23.4	41.1	100.0
Vocational counseling: n = 147					
Stable educators	0.0	45.2	54.3	82.6	65.3
Mobile educators	100.0	54.8	45.7	17.4	34.7
Percent of group	0.7	21.1	31.3	46.9	100.0
Total program administration and coordination: n = 228					
Stable educators	33.3	44.8	68.5	79.7	71.1
Mobile educators	66.7	55.2	31.5	20.3	28.9
Percent of group	1.3	12.7	32.0	53.9	100.0
Related curriculum instruction: n = 74					
Stable educators	0.0	69.6	57.9	71.0	66.2
Mobile educators	100.0	30.4	42.1	29.0	33.8
Percent of group	1.4	31.1	25.7	41.9	100.0

TABLE 18

NUMBER OF CHILDREN AT HOME SECONDARY AGE AND BELOW COMPARED WITH THE MOBILITY VARIABLE, BY AREA OF SPECIALIZATION

(Percents)

Mobility Group	Number of children at home			Percent of group
	GT 2	1, 2	0	
Agriculture and applied biological education: n = 115				
Stable educators	53.8	77.4	55.6	65.2
Mobile educators	46.2	22.6	44.4	34.8
Percent of group	22.6	46.1	31.3	100.0
Business, marketing, and management education: n = 476				
Stable educators	67.4	57.6	60.6	60.7
Mobile educators	32.6	42.4	39.4	39.3
Percent of group	18.1	36.1	45.8	100.0
Health occupations education: n = 322				
Stable educators	69.2	73.2	55.2	64.6
Mobile educators	30.8	26.8	44.8	35.4
Percent of group	16.1	39.4	44.4	100.0
Technical education: n = 106				
Stable educators	60.7	75.0	73.5	70.8
Mobile educators	39.3	25.0	26.5	29.2
Percent of group	26.4	41.5	32.1	100.0
Trade and industrial oriented education: n = 943				
Stable educators	66.8	68.1	70.5	68.6
Mobile educators	33.2	31.9	29.5	31.4
Percent of group	22.7	42.8	34.5	100.0
Personal and public service occupations education: n = 229				
Stable educators	70.4	66.2	62.6	64.6
Mobile educators	29.6	33.8	37.4	35.4
Percent of group	11.8	31.0	57.2	100.0
Vocational counseling: n = 146				
Stable educators	50.0	66.7	68.3	65.1
Mobile educators	50.0	33.3	31.7	34.9
Percent of group	13.7	43.2	43.2	100.0
Total program administration and coordination: n - 215				
Stable educators	68.6	69.1	71.1	69.8
Mobile educators	31.4	30.9	28.9	30.2
Percent of group	23.7	37.7	38.6	100.0
Related curriculum instruction: n = 74				
Stable educators	81.8	53.8	70.3	66.2
Mobile educators	18.2	46.2	29.7	33.8
Percent of group	14.9	35.1	50.0	100.0

TABLE 19

FATHER'S EDUCATIONAL ATTAINMENT COMPARED WITH THE MOBILITY VARIABLE, BY AREA OF SPECIALIZATION

(Percents)

Mobility Group	Father's educational attainment[1]					Percent of group
	One	Two	Three	Four	Five	
Agriculture and applied biological education: n = 109						
Stable educators	74.2	55.0	45.5	83.3	16.7	65.1
Mobile educators	25.8	45.0	54.5	16.7	83.3	34.9
Percent of group	60.6	18.3	10.1	5.5	5.5	100.0
Business, marketing, and management education: n = 459						
Stable educators	64.0	57.4	61.9	53.3	48.0	60.8
Mobile educators	36.0	42.6	38.1	46.7	52.0	39.2
Percent of group	53.8	20.5	13.7	6.5	5.4	100.0
Health occupations education: n = 309						
Stable educators	70.2	61.9	71.4	29.2	58.3	65.0
Mobile educators	29.8	38.1	28.6	70.8	41.7	35.0
Percent of group	52.1	20.4	15.9	7.8	3.9	100.0
Technical education: n = 99						
Stable educators	77.4	50.0	72.2	66.7	50.0	69.7
Mobile educators	22.6	50.0	27.8	33.3	50.0	30.3
Percent of group	53.5	16.2	18.2	6.1	6.1	100.0
Trade and industrial oriented education: n = 839						
Stable educators	70.8	60.5	68.8	56.1	50.0	67.1
Mobile educators	29.2	39.5	31.2	43.9	50.0	32.9
Percent of group	61.1	19.3	11.1	4.9	3.9	100.0
Personal and public service occupations education: n = 215						
Stable educators	71.1	73.3	57.8	47.1	36.4	65.1
Mobile educators	28.9	26.7	42.2	52.9	63.6	34.9
Percent of group	45.1	20.9	20.9	7.9	5.1	100.0
Vocational counseling: n = 139						
Stable educators	76.8	46.4	50.0	73.3	47.1	64.7
Mobile educators	23.2	53.6	50.0	26.7	52.9	35.3
Percent of group	49.6	20.1	7.2	10.8	12.2	100.0

TABLE 19 (Continued)

Mobility Group	Father's educational attainment[1]					Percent of group
	One	Two	Three	Four	Five	
Total program administration and coordination: n = 201						
Stable educators	72.6	61.1	72.4	75.0	57.1	70.1
Mobile educators	27.4	38.9	27.6	25.0	42.9	29.9
Percent of group	58.2	17.9	14.4	6.0	3.5	100.0
Related curriculum instruction: n = 71						
Stable educators	59.6	88.9	66.7	60.0	75.0	64.8
Mobile educators	40.4	11.1	33.3	40.0	25.0	35.2
Percent of group	66.2	12.7	8.5	7.0	5.6	100.0

[1] Educational attainment: 1 = less than high school graduate; 2 = high school graduate; 3 = some post-secondary education, but less than a baccalaureate degree; 4 = baccalaureate degree; 5 = graduate degree.

TABLE 20

DISTANCE FROM RESPONDENT'S PARENTS COMPARED WITH THE MOBILITY VARIABLE, BY AREA OF SPECIALIZATION

(Percents)

Mobility Group	Miles from parents				Percent of group
	LT 50	50-100	101-300	GT 300	
Agriculture and applied biological education: n = 103					
Stable educators	71.4	54.5	54.3	45.5	59.2
Mobile educators	28.6	45.5	45.7	54.5	40.8
Percent of group	34.0	21.4	34.0	10.7	100.0
Business, marketing, and management education: n = 405					
Stable educators	67.3	64.0	44.6	55.7	59.0
Mobile educators	32.7	36.0	55.4	44.3	41.0
Percent of group	37.0	18.5	22.7	21.7	100.0
Health occupations education: n = 269					
Stable educators	76.6	70.0	57.9	49.2	65.4
Mobile educators	23.4	30.0	42.1	50.8	34.6
Percent of group	41.3	14.9	21.2	22.7	100.0
Technical education: n = 84					
Stable educators	85.3	50.0	61.1	54.5	67.9
Mobile educators	14.7	50.0	38.9	45.5	32.1
Percent of group	40.5	11.9	21.4	26.2	100.0
Trade [illegible] industrial oriented education: n = 765					
Stable educators	71.9	65.0	59.7	56.9	66.0
Mobile educators	28.1	35.0	40.3	43.1	34.0
Percent of group	49.8	13.5	18.8	17.9	100.0
Personal and public service occupations education: n = 179					
Stable educators	63.5	71.4	48.8	52.8	59.2
Mobile educators	36.5	28.6	51.2	47.2	40.8
Percent of group	41.3	15.6	22.9	20.1	100.0
Vocational counseling: n = 120					
Stable educators	56.8	76.5	51.7	63.3	60.0
Mobile educators	43.2	23.5	48.3	36.7	40.0
Percent of group	36.7	14.2	24.2	25.0	100.0
Total program administration and coordination: n = 179					
Stable educators	67.5	73.5	75.0	71.4	70.9
Mobile educators	32.5	26.5	25.0	28.6	29.1
Percent of group	43.0	19.0	22.3	15.6	100.0
Related curriculum instruction: n = 56					
Stable educators	78.9	50.0	61.5	83.3	69.6
Mobile educators	21.1	50.0	38.5	16.7	30.4
Percent of group	33.9	21.4	23.2	21.4	100.0

TABLE 21

GEOGRAPHIC REGION COMPARED WITH MOBILITY VARIABLE,
BY AREA OF SPECILIZATION

(Percents)

Mobility Group	Region				Percent of group
	North East	North Central	South	West	
Agriculture and applied biological education: n = 119					
Stable educators	66.7	54.8	69.0	68.8	64.7
Mobile educators	33.3	45.2	31.0	31.3	35.3
Percent of group	22.7	26.1	24.4	26.9	100.0
Business, marketing, and management education: n = 501					
Stable educators	66.7	59.1	61.5	61.5	61.9
Mobile educators	33.3	40.9	38.5	38.5	38.1
Percent of group	21.6	29.7	29.5	19.2	100.0
Health occupations education: n = 338					
Stable educators	73.6	60.6	59.7	79.1	65.4
Mobile educators	26.4	39.4	40.3	20.9	34.6
Percent of group	21.3	30.8	35.2	12.7	100.0
Technical education: n = 111					
Stable educators	73.5	70.0	75.0	58.8	71.2
Mobile educators	26.5	30.0	25.0	41.2	28.8
Percent of group	30.6	18.0	36.0	15.3	100.0
Trade and industrial oriented education: n = 1015					
Stable educators	74.1	57.6	76.0	68.2	69.1
Mobile educators	25.9	42.4	24.0	31.8	30.9
Percent of group	25.1	28.6	30.8	15.5	100.0
Personal and public service occupations education: n = 239					
Stable educators	75.0	56.3	70.0	51.2	64.0
Mobile educators	25.0	43.8	30.0	48.8	36.0
Percent of group	21.8	26.8	33.5	18.0	100.0
Vocational counseling: n = 149					
Stable educators	72.4	62.5	71.1	53.8	65.1
Mobile educators	27.6	37.5	28.9	46.2	34.9
Percent of group	19.5	37.6	25.5	17.4	100.0
Total program administration and coordination: n = 231					
Stable educators	63.0	67.1	72.7	85.7	71.0
Mobile educators	37.0	32.9	37.3	14.3	29.0
Percent of group	19.9	31.6	33.3	15.2	100.0
Related curriculum instruction: n = 74					
Stable educators	66.7	30.8	77.1	72.7	66.2
Mobile educators	33.3	69.2	22.9	27.3	33.8
Percent of group	20.3	17.6	47.3	14.9	100.0

TABLE 22

EDUCATIONAL LEVEL ATTAINED BY RESPONDENT COMPARED WITH THE MOBILITY VARIABLE, BY AREA OF SPECIALIZATION

(Percents)

Mobility Group	Respondent's educational level[1]						Percent of group
	One	Two	Three	Four	Five	Six	
Agriculture and applied biological education: n = 119							
Stable educators	0.0	0.0	100.0	64.8	67.3	50.0	64.7
Mobile educators	0.0	100.0	0.0	35.2	32.7	50.0	35.3
Percent of group	0.0	0.8	0.8	45.4	46.2	6.7	100.0
Business, marketing, and management education: n = 479							
Stable educators	66.7	50.0	37.5	59.0	65.0	67.7	61.9
Mobile educators	33.3	50.0	62.5	41.0	35.0	32.3	38.1
Percent of group	0.6	4.4	1.6	36.5	50.7	6.2	100.0
Health occupations education: n = 338							
Stable educators	100.0	74.1	74.0	62.9	57.7	76.5	65.4
Mobile educators	0.0	25.9	26.0	37.1	42.3	23.5	34.6
Percent of group	0.3	8.0	21.6	34.3	30.8	5.0	100.0
Technical education: n = 110							
Stable educators	100.0	71.4	100.0	66.7	69.4	80.0	70.9
Mobile educators	0.0	28.6	0.0	33.3	30.6	20.0	29.1
Percent of group	0.9	6.4	4.5	27.3	56.4	4.5	100.0
Trade and industrial oriented education: n = 1010							
Stable educators	80.8	77.3	70.1	60.6	63.2	60.0	69.0
Mobile educators	19.2	22.7	29.9	39.4	36.8	40.0	31.0
Percent of group	5.1	35.8	7.6	23.4	25.0	3.0	100.0
Personal and public service occupations education: n = 238							
Stable educators	66.7	64.3	100.0	60.8	63.6	70.0	63.9
Mobile educators	33.3	35.7	0.0	39.2	36.4	30.0	36.1
Percent of group	1.3	11.8	2.9	42.9	37.0	4.2	100.0
Vocational counseling: n = 149							
Stable educators	0.0	100.0	0.0	47.1	68.1	57.1	65.1
Mobile educators	0.0	0.0	0.0	52.9	31.9	42.9	34.9
Percent of group	0.0	1.3	0.0	11.4	77.9	9.4	100.0

TABLE 22 (Continued)

Mobility Group	Respondent's educational level[1]						Percent of group
	One	Two	Three	Four	Five	Six	
Total program administration and coordination: n = 229							
Stable educators	100.0	60.0	100.0	74.3	71.6	64.7	70.7
Mobile educators	0.0	40.0	0.0	25.7	28.4	35.3	29.3
Percent of group	0.4	4.4	0.4	15.3	64.6	14.8	100.0
Related curriculum instruction: n = 73							
Stable educators	0.0	0.0	0.0	70.0	67.6	50.0	65.8
Mobile educators	0.0	100.0	100.0	30.0	32.4	50.0	34.2
Percent of group	0.0	1.4	1.4	41.1	50.7	5.5	100.0

[1] Educational level: 1 = high school graduate; 2 = some post-secondary education but no degree; 3 = associate or three-year degree; 4 = baccalaureate degree; 5 = master's degree; 6 = six-year degree or doctorate.

TABLE 23

METHOD OF TEACHER PREPARATION COMPARED WITH THE MOBILITY VARIABLE, BY AREA OF SPECIALIZATION

(Percents)

Mobility Group	Teacher preparation			Percent of group
	Degree Program	Both	Nondegree Program	
Agriculture and applied biological education: n = 112				
Stable educators	72.7	38.9	57.1	63.4
Mobile educators	27.3	61.1	42.9	36.6
Percent of group	58.9	16.1	25.0	100.0
Business, marketing, and management education: n = 469				
Stable educators	66.9	59.8	51.9	62.3
Mobile educators	33.1	40.2	48.1	37.7
Percent of group	59.9	17.5	22.6	100.0
Health occupations education: n = 295				
Stable educators	64.5	46.2	67.4	64.7
Mobile educators	35.5	53.8	32.6	35.3
Percent of group	25.8	8.8	65.4	100.0
Technical education: n = 92				
Stable educators	60.0	81.3	70.7	68.5
Mobile educators	40.0	18.8	29.3	31.5
Percent of group	38.0	17.4	44.6	100.0
Trade and industrial oriented education: n = 944				
Stable educators	60.3	66.7	74.9	69.2
Mobile educators	39.7	33.3	25.1	30.8
Percent of group	30.9	14.3	54.8	100.0
Personal and public service occupations education: n = 220				
Stable educators	65.2	51.5	61.8	62.3
Mobile educators	34.8	48.5	38.2	37.7
Percent of group	60.0	15.0	25.0	100.0
Related curriculum instruction: n = 67				
Stable educators	69.4	57.1	58.8	64.2
Mobile educators	30.6	42.9	41.2	35.8
Percent of group	53.7	20.9	25.4	100.0

TABLE 24

THE NUMBER OF YEARS THE RESPONDENT HAD BEEN IN HIS CURRENT SCHOOL SYSTEM COMPARED WITH MOBILITY VARIABLE, BY AREA OF SPECIALIZATION

(Percents)

Mobility Group	Years					Percent of group
	GT 12	10-12	7-9	4-6	1-3	
Agriculture and applied biological education: n = 114						
Stable educators	77.3	85.7	60.0	57.7	57.1	63.2
Mobile educators	22.7	14.3	40.0	42.3	42.9	36.8
Percent of group	19.3	6.1	8.8	22.8	43.0	100.0
Business, marketing, and management education: n = 468						
Stable educators	91.5	76.6	73.5	61.3	41.6	61.5
Mobile educators	8.5	23.4	26.5	38.7	58.4	38.5
Percent of group	15.2	10.0	7.3	33.1	34.4	100.0
Health occupations education: n = 321						
Stable educators	86.7	63.6	81.5	67.0	58.9	64.5
Mobile educators	13.3	36.4	18.5	33.0	41.1	35.5
Percent of group	4.7	3.4	8.4	27.4	56.1	100.0
Technical education: n = 99						
Stable educators	100.0	72.2	100.0	58.8	58.3	70.7
Mobile educators	0.0	27.8	0.0	41.2	41.7	29.3
Percent of group	14.1	18.2	9.1	34.3	24.2	100.0
Trade and industrial oriented education: n = 938						
Stable educators	87.9	78.2	78.9	66.7	54.3	68.3
Mobile educators	12.1	21.8	21.1	33.3	45.7	31.7
Percent of group	17.6	8.3	10.1	29.4	34.5	100.0
Personal and public service occupations education: n = 226						
Stable educators	91.2	68.2	80.0	66.0	50.0	63.7
Mobile educators	8.8	31.8	20.0	34.0	50.0	36.3
Percent of group	15.0	9.7	6.6	23.5	45.1	100.0
Vocational counseling: n = 135						
Stable educators	79.4	73.3	76.9	65.5	52.3	66.7
Mobile educators	20.6	26.7	23.1	34.5	47.7	33.3
Percent of group	25.2	11.1	9.6	21.5	32.6	100.0
Total program administration and coordination: n = 213						
Stable educators	82.0	77.8	78.1	73.3	52.6	71.4
Mobile educators	18.0	22.2	21.9	26.7	47.4	28.6
Percent of group	28.6	8.5	15.0	21.1	26.8	100.0
Related curriculum instruction: n = 70						
Stable educators	75.0	50.0	100.0	80.0	59.0	65.7
Mobile educators	25.0	50.0	0.0	20.0	41.0	34.3
Percent of group	11.4	8.6	2.9	21.4	55.7	100.0

TABLE 25

ADJUSTED MONTHLY SALARY COMPARED WITH THE MOBILITY VARIABLE, BY AREAS OF SPECIALIZATION

(Percents)

Mobility Group	Adjusted monthly salary[1]					Percent of group
	One	Two	Three	Four	Five	
Agriculture and applied biological education: n = 118						
Stable educators	75.0	90.0	76.9	62.9	55.8	64.4
Mobile educators	25.0	10.0	23.1	37.1	44.2	35.6
Percent of group	6.8	8.5	11.0	29.7	44.1	100.0
Business, marketing, and management education: n = 494						
Stable educators	77.8	78.0	71.9	52.0	47.4	61.7
Mobile educators	22.2	22.0	28.1	48.0	52.6	38.3
Percent of group	12.8	11.9	23.1	24.9	27.3	100.0
Health occupations education: n = 330						
Stable educators	77.4	65.0	66.7	63.0	62.4	64.8
Mobile educators	22.6	35.0	33.3	37.0	37.6	35.2
Percent of group	9.4	6.1	16.4	27.9	40.3	100.0
Technical education: n = 111						
Stable educators	74.1	80.0	66.7	70.0	61.5	71.2
Mobile educators	25.9	20.0	33.3	30.0	38.5	28.8
Percent of group	24.3	18.0	18.9	27.0	11.7	100.0
Trade and industrial oriented education: n = 996						
Stable educators	82.5	80.8	67.2	67.4	62.8	69.1
Mobile educators	17.5	19.2	32.8	32.6	37.2	30.9
Percent of group	9.7	12.6	17.8	28.9	31.0	100.0
Personal and public service occupations education: n = 234						
Stable educators	84.2	75.0	70.7	69.1	51.6	64.5
Mobile educators	15.8	25.0	29.3	30.9	48.4	35.5
Percent of group	8.1	12.0	17.5	23.5	38.9	100.0
Vocational counseling: n = 147						
Stable educators	76.9	72.4	71.1	48.3	56.0	65.3
Mobile educators	23.1	27.6	28.9	51.7	44.0	34.7
Percent of group	17.7	19.7	25.9	19.7	17.0	100.0

TABLE 25 (Continued)

Mobility Group	Adjusted monthly salary[1]					Percent of group
	One	Two	Three	Four	Five	
Total program administration and coordination: n = 230						
Stable educators	79.0	78.9	68.2	55.8	62.5	70.9
Mobile educators	21.0	21.1	31.8	44.2	37.5	29.1
Percent of group	35.2	16.5	19.1	18.7	10.4	100.0
Related curriculum instruction: n = 71						
Stable educators	0.0	80.0	63.2	63.2	70.4	66.2
Mobile educators	100.0	20.0	36.8	36.8	29.6	33.8
Percent of group	1.4	7.0	26.8	26.8	38.0	100.0

[1] Adjusted monthly income: 1 = $1500 or more; 2 = $1300 - 1499; 3 = $1100 - 1299; 4 = $900 - 1099; 5 = less than $900.

TABLE 26

THE AVERAGE LENGTH OF THE EDUCATIONAL JOBS OF THE RESPONDENT COMPARED WITH THE MOBILITY VARIABLE, BY AREA OF SPECIALIZATION

(Percents)

Mobility Group	Years				Percent of group
	GT 7.0	4.1–7.0	2.1–4.0	1.0–2.0	
Agriculture and applied biological education: n = 113					
Stable educators	82.8	69.0	50.0	54.8	64.6
Mobile educators	17.2	31.0	50.0	45.2	35.4
Percent of group	25.7	25.7	21.2	27.4	100.0
Business, marketing, and management education: n = 467					
Stable educators	88.5	75.4	53.6	36.1	61.0
Mobile educators	11.5	24.6	46.4	63.9	39.0
Percent of group	16.7	27.8	30.0	25.5	100.0
Health occupations education: n = 313					
Stable educators	88.5	62.1	67.0	58.1	64.5
Mobile educators	11.5	37.9	33.0	41.9	35.5
Percent of group	8.3	18.5	35.8	37.4	100.0
Technical education: n = 108					
Stable educators	90.5	73.5	61.5	57.1	70.4
Mobile educators	9.5	26.5	38.5	42.9	29.6
Percent of group	19.4	31.5	36.1	13.0	100.0
Trade and industrial oriented education: n = 920					
Stable educators	85.7	77.3	60.5	52.0	69.1
Mobile educators	14.3	22.7	39.5	48.0	30.9
Percent of group	24.2	26.3	27.5	22.0	100.0
Personal and public service occupations education: n = 216					
Stable educators	87.5	78.0	60.3	48.6	64.8
Mobile educators	12.5	22.0	39.7	51.4	35.2
Percent of group	18.5	19.0	29.2	33.3	100.0
Vocational counseling: n = 141					
Stable educators	88.9	69.8	70.8	40.6	66.0
Mobile educators	11.1	30.2	29.2	59.4	34.0
Percent of group	12.8	30.5	34.0	22.7	100.0
Total program administration and coordination: n = 209					
Stable educators	81.1	79.4	69.1	52.8	71.8
Mobile educators	18.9	20.6	30.9	47.2	28.2
Percent of group	17.7	32.5	32.5	17.2	100.0
Related curriculum instruction: n = 71					
Stable educators	50.0	78.6	63.6	64.0	64.8
Mobile educators	50.0	21.4	36.4	36.0	35.2
Percent of group	14.1	19.7	31.0	35.2	100.0

TABLE 27

THE RELATIONSHIP BETWEEN CURRENT SCHOOL ENROLLMENT AND ENROLLMENT OF THE SCHOOL IN WHICH THE RESPONDENT WAS EMPLOYED LAST COMPARED WITH THE MOBILITY VARIABLE, BY AREA OF SPECIALIZATION

(Percents)

Mobility Group	Relationship between school sizes[1]			Percent of group
	One	Two	Three	
Agriculture and applied biological education: n = 119				
Stable educators	41.2	80.0	65.9	64.7
Mobile educators	58.8	20.0	34.1	35.3
Percent of group	14.3	16.8	68.9	100.0
Business, marketing, and management education: n = 500				
Stable educators	45.0	70.7	64.1	61.8
Mobile educators	55.0	29.3	35.9	38.2
Percent of group	16.0	11.6	72.4	100.0
Health occupations education: n = 337				
Stable educators	27.6	80.0	68.6	65.6
Mobile educators	72.4	20.0	31.4	34.4
Percent of group	8.6	4.5	86.9	100.0
Technical education: n = 111				
Stable educators	40.0	64.3	78.0	71.2
Mobile educators	60.0	35.7	22.0	28.8
Percent of group	13.5	12.6	73.9	100.0
Trade and industrial oriented education: n = 1009				
Stable educators	37.0	63.5	74.3	69.0
Mobile educators	63.0	36.5	25.7	31.0
Percent of group	11.8	8.4	79.8	100.0
Personal and public service occupations education: n = 237				
Stable educators	48.3	80.0	65.4	64.6
Mobile educators	51.7	20.0	34.6	35.4
Percent of group	12.2	8.4	79.3	100.0
Vocational counseling: n = 148				
Stable educators	66.7	47.6	69.0	65.5
Mobile educators	33.3	52.4	31.0	34.5
Percent of group	18.2	14.2	67.6	100.0

TABLE 27 (Continued)

Mobility Group	Relationship between school sizes[1] One	Two	Three	Percent of group
Total program administration and coordination: n = 228				
Stable educators	63.8	76.7	72.5	71.5
Mobile educators	36.2	23.3	27.5	28.5
Percent of group	20.6	18.9	60.5	100.0
Related curriculum instruction: n = 72				
Stable educators	58.3	78.6	65.2	66.7
Mobile educators	41.7	21.4	34.8	33.3
Percent of group	16.7	19.4	63.9	100.0

[1] 1 = current school was smaller than the school in which the educator worked just prior to the current job; 2 = past and current schools were the same size; 3 = current school was larger than the school in which the educator worked just prior to the current job.

TABLE 28

THE DEGREE CURRENTLY SOUGHT BY THE RESPONDENT COMPARED WITH THE MOBILITY VARIABLE, BY AREA OF SPECIALIZATION

(Percents)

Mobility Group	Degree sought[1]				Percent of group
	One	Two	Three	Four	
Agriculture and applied biological education: n = 117					
Stable educators	60.0	66.7	66.7	72.2	64.1
Mobile educators	40.0	33.3	33.3	27.8	35.9
Percent of group	51.3	2.6	30.8	15.4	100.0
Business, marketing, and management education: n = 497					
Stable educators	65.1	58.8	57.3	56.0	61.8
Mobile educators	34.9	41.2	42.7	44.0	38.2
Percent of group	59.4	3.4	22.1	15.1	100.0
Health occupations education: n = 333					
Stable educators	62.5	76.1	67.1	53.1	65.5
Mobile educators	37.5	23.9	32.9	46.9	34.5
Percent of group	48.0	21.3	21.0	9.6	100.0
Technical education: n = 110					
Stable educators	78.3	90.0	52.6	57.1	70.9
Mobile educators	21.7	10.0	47.4	42.9	29.1
Percent of group	54.5	9.1	17.3	19.1	100.0
Trade and industrial oriented education: n = 988					
Stable educators	71.2	74.1	58.2	53.8	68.9
Mobile educators	28.8	25.9	41.8	46.2	31.1
Percent of group	48.2	29.8	15.5	6.6	100.0
Personal and public service occupations education: n = 233					
Stable educators	63.9	78.3	60.4	62.5	64.4
Mobile educators	36.1	21.7	39.6	37.5	35.6
Percent of group	57.1	9.9	22.7	10.3	100.0
Vocational counseling: n = 146					
Stable educators	67.0	0.0	43.8	71.9	65.1
Mobile educators	33.0	100.0	56.3	28.1	34.9
Percent of group	66.4	0.7	11.0	21.9	100.0

TABLE 28 (Continued)

Mobility Group	Degree sought[1]				Percent of group
	One	Two	Three	Four	
Total program administration and coordination: n = 225					
Stable educators	73.4	72.7	68.2	65.3	71.1
Mobile educators	26.6	27.3	31.8	34.7	28.9
Percent of group	63.6	4.9	9.8	21.8	100.0
Related curriculum instruction: n = 73					
Stable educators	66.7	66.7	59.1	77.8	65.8
Mobile educators	33.3	33.3	40.9	22.2	34.2
Percent of group	53.4	4.1	30.1	12.3	100.0

[1] Degree sought: 1 = none; 2 = baccalaureate or lower degree; 3 = master's degree; 4 = specialist or doctorate.

TABLE 29

YEARS IN EDUCATIONAL EMPLOYMENT COMPARED WITH THE MOBILITY VARIABLE, BY AREA OF SPECIALIZATION

(Percents)

Mobility Group	Years in educational jobs					Percent of group
	1-3	4-6	7-10	11-15	More	
Agriculture and applied biological education: n = 113						
Stable educators	58.6	60.9	44.4	75.0	81.5	64.6
Mobile educators	41.4	39.1	55.6	25.0	18.5	35.4
Percent of group	25.7	20.4	15.9	14.2	23.9	100.0
Business, marketing, and management education: n = 469						
Stable educators	37.1	49.6	66.0	68.1	86.1	61.2
Mobile educators	62.9	50.4	34.0	31.9	13.9	38.8
Percent of group	19.0	24.1	20.7	14.7	21.5	100.0
Health occupations education: n = 312						
Stable educators	56.2	63.8	71.1	60.7	87.0	64.4
Mobile educators	43.8	36.3	28.9	39.3	13.0	35.6
Percent of group	33.7	25.6	24.4	9.0	7.4	100.0
Technical education: n = 108						
Stable educators	50.0	59.3	82.6	61.5	88.9	70.4
Mobile educators	50.0	40.7	17.4	38.5	11.1	29.6
Percent of group	16.7	25.0	21.3	12.0	25.0	100.0
Trade and industrial oriented education: n = 923						
Stable educators	59.0	65.8	67.3	79.6	83.5	69.1
Mobile educators	41.0	34.2	32.7	20.4	16.5	30.9
Percent of group	24.6	24.7	21.9	11.7	17.1	100.0
Personal and public service occupations education: n = 216						
Stable educators	42.3	56.4	71.1	77.3	87.8	64.8
Mobile educators	57.7	43.6	28.9	22.7	12.2	35.2
Percent of group	24.1	25.5	17.6	10.2	22.7	100.0
Vocational counseling: n = 141						
Stable educators	36.8	64.3	40.0	70.3	84.3	66.0
Mobile educators	63.2	35.7	60.0	29.7	15.7	34.0
Percent of group	13.5	9.9	14.2	26.2	36.2	100.0
Total program administration and coordination: n = 209						
Stable educators	61.5	71.4	64.9	67.4	78.3	71.8
Mobile educators	38.5	28.6	35.1	32.6	21.7	28.2
Percent of group	6.2	10.0	17.7	22.0	44.0	100.0
Related curriculum instruction: n = 71						
Stable educators	60.0	58.3	56.3	75.0	80.0	64.8
Mobile educators	40.0	41.7	43.8	25.0	20.0	35.2
Percent of group	28.2	16.9	22.5	11.3	21.1	100.0

APPENDIX B

INSTRUCTIONAL CODES AND TITLES[1]

(By Occupational Area)

APPLIED BIOLOGICAL AND AGRICULTURAL OCCUPATIONS

01.0201	Agricultural Chemicals
01.0306	Agricultural Construction & Maintenance
01.0307	Agricultural Electrification
01.0300	Agricultural Mechanics
01.0305	Agricultural Mechanics Skills
01.0301	Agricultural Power & Machinery
01.0100	Agricultural Production
01.0400	Agricultural Products
01.0600	Agricultural Resources (Conservation, etc.)
01.0302	Agricultural Structures & Conveniences
01.0200	Agricultural Supplies & Services
16.0102	Agricultural Technician
01.0101	Animal Science
01.0401	Dairy Products
01.0104	Farm Business Management
01.0103	Farm Mechanics
01.0202	Feeds
01.0204	Fertilizers (Plant Food)
01.0502	Floriculture
01.0700	Forestry (Prod., Processing, Mgt., Mktg., & Services)
16.0603	Forestry Technology
01.0601	Forest Conservationists
01.0503	Greenhouse Operation & Management
01.0504	Landscaping
01.0703	Logging (Harvesting & Transporting)
01.0402	Nonfood Products (Processing, Inspecting & Marketing)
01.0500	Ornamental Horticulture (Prod., Proc. Mktg. & Services)
01.0102	Plant Science
01.0203	Seeds
01.0603	Soil (Agricultural Resources) Conservationist
01.0303	Soil Management
01.0506	Turf Management
01.0304	Water Management
01.0604	Wildlife (Includ. Game Farms & Hunting Areas) Conservationist
01.0704	Wood Utilization

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[1] Vocational and technical education descriptions, definitions, and O. E. Coding, Bulletin No. 5-1071. State of Illinois, Board of Vocational Education and Rehabilitation and the Division of Vocational and Technical Education. Springfield, 1971.

BUSINESS, MARKETING AND MANAGEMENT OCCUPATIONS

14.0101	Accountants
14.0100	Accounting and Computing Occupations
14.0801	Administrative Assistants
04.0100	Advertising Services
04.0300	Automotive (Sales)
14.0102	Bookkeepers
14.0200	Business Data Processing (Also introduction to)
14.0103	Cashiers
14.0803	Clerical & Office Supervisors
14.0901	Clerk-Typists
14.0401	Communication Systems Clerks & Operators
14.0201	Computer & Console Operators
14.0203	Computer Programmers
14.0402	Correspondence Clerks
14.0804	Data-Methods & Systems Procedures Analysts
04.9900	Dist. Ed. Mktg. - General
14.0301	Duplicating Machine Operators
14.0701	Executive Secretary
14.0302	File Clerks
14.0300	Filing, Office Machines, and General Office
04.0400	Finance and Credit
04.0600	Food Distribution (Sales)
04.0700	Food Services (Sales) & Distribution
04.0800	General Merchandise (Sales)
14.0303	General Office Clerks
04.0900	Hardware, Building Mat., Farm & Garden (Sales)
04.1200	Industrial Marketing (Sales)
14.0400	Information Communication Assistant
04.1300	Insurance (Sales)
14.0602	Interviewers & Test Technicians
14.0202	Keypunch, Coding, & Peripheral Operators
14.0104	Machine Operators: Billing, Bookkeeping, and Computing
14.0500	Materials Support Occupations (Trans., Storing, Recording)
14.0405	Messengers and Office Boys and Girls
14.0805	Office Managers & Chief Clerks
16.0400	Office Technician
14.0603	Personnel Assistant
14.0600	Personnel Administrator
04.1600	Petroleum (Sales)
14.0502	Quality Control Clerks
04.1700	Real Estate (Sales)
14.0406	Receptionists & Information Clerks
04.2000	Retail Trade & Sales
16.0117	Scientific Data Processing
14.0702	Secretaries
14.0503	Shipping & Receiving Clerks
14.0703	Stenographers
14.0700	Stenographic, Secretarial & Related Occupations
14.0800	Supervisory & Admin. Management Occupations
14.0204	Systems Analysts
14.0105	Tellers

04.1900	Transportation (Sales)
04.3100	Wholesale Trade & Sales

HEALTH OCCUPATIONS

07.0906	Community Health Aide
07.0100	Dental Assistant
07.0101	Dental Assisting
07.0102	Dental Hygiene (Associate Degree)
07.0103	Dental Laboratory Technician
07.0908	Food Service Supervisor
07.0900	Health Occupations Education
07.0202	Histologist
07.0903	Inhalation Therapy
07.0904	Medical Assistant (Assistant in Physician's Office)
07.0203	Medical Laboratory Assistant
07.0200	Medical Laboratory Technology
07.0801	Mental Health Technician
07.0909	Mortuary Science
07.0300	Nursing
07.0301	Nursing (Associate Degree)
07.0302	Nursing, Practical (Vocational)
07.0303	Nursing Aide
07.0401	Occupational Therapist
07.0603	Optometrist Assistant
07.0402	Physical Therapist
07.0403	Prosthetics
07.0500	Radiologic (Health Occupations) (General)
07.0501	Radiologic Technology (X-Ray)
07.0400	Rehabilitation Assistant
07.0305	Surgical Technician (Operating Room Technician)

INDUSTRIAL ORIENTED OCCUPATIONS

17.0100	Air Conditioning
17.0401	Aircraft Maintenance
17.0402	Aircraft Operations
17.0403	Aircraft Operations, Ground
17.0200	Appliance Repair
16.0103	Architectural Technician (Building Construction)
17.0302	Auto Mechanics
17.0300	Automotive Services
16.0104	Automotive Technician
17.0301	Body and Fender
17.0600	Business Machine Maintenance
17.1001	Carpentry
16.0105	Chemical Technology
16.0106	Civil Technician
17.0700	Commercial Artist
16.0601	Commercial Pilot Training

17.0900	Commercial Photography
17.1501	Communication Systems - Instal. & Maint.
17.1901	Composition, Makeup & Typesetting
17.1000	Construction and Maintenance Trades
17.2308	Die Sinking
17.1200	Diesel Mechanic
17.1300	Drafting
17.0201	Electrical Appliances Repair
17.1002	Electrician (Construction)
16.0107	Electrical Technician
17.1500	Electronics Occupations
16.0108	Electronic Technician
16.0109	Electromechanical Technician
16.0100	Engineering-Related Technician
17.1700	Foremanship, Supervision, & Management Development
17.2301	Foundry
17.1009	Glazing
17.0102	Heating
17.1003	Heavy Equipment (Construction)
17.1401	Industrial Electrician
17.1502	Industrial Electronics
16.0111	Industrial Technician
16.0112	Instrumentation Technician
17.1402	Lineman
17.1903	Lithography, Photography & Platemaking
17.2302	Machine Shop
17.2303	Machine Tool Operations
17.1004	Masonry
16.0113	Mechanical Technician
17.2309	Metal Patternmaking
17.2304	Metal Trades, Combined
16.0114	Metallurgical Technician
17.3601	Millwork & Cabinet Making
17.1005	Painting & Decorating
16.0116	Petroleum Technician
17.0901	Photographic Lab. & Darkroom Occupations
17.1006	Plastering
17.1007	Plumbing & Pipefitting
17.1902	Printing Press Operators
17.0703	Product Designer
17.3202	Pumping Plants
17.1503	Radio/Television Repair
17.3000	Refrigeration Maintenance & Repair
17.2305	Sheet Metal Worker
17.3402	Shoe Repair
17.1905	Silk-Screen Making & Printing
17.3100	Small Engine Repair, Internal Combustion
17.2307	Tool & Die Making
17.3500	Upholstering
17.2102	Watchmaking & Repair
17.2306	Welding & Cutting

PERSONAL & PUBLIC SERVICE OCCUPATIONS

17.2901	Baker
17.2601	Barbering
09.0201	Care & Guidance of Children
09.0202	Clothing Management, Production, & Services (Gainful)
17.2902	Cook/Chef
17.2602	Cosmetology
17.1100	Custodial Services
17.3301	Dressmaking
17.1601	Dry Cleaning
14.0601	Educational Assistants & Training Specialists
16.0110	Environmental Control Technology
17.1600	Fabric Maintenance Services
16.0602	Fire & Fire Safety Technology
17.2801	Fireman Training
09.0203	Food Management, Production, and Services
01.0601	Forest Conservationists
09.0204	Home Furnishing, Equipment and Services
04.1100	Hotel & Lodging Services
09.0205	Institutional & Home Management & Supporting Services
17.0701	Interior Decorating
17.1602	Laundering
17.2802	Law Enforcement Training
17.2903	Meat Cutter
04.1500	Personal Service
16.0605	Police Science Technology
01.0602	Recreation Director (Park Ranger - Manager)
04.1800	Recreation & Tourism
17.3302	Tailoring
17.3300	Textile Production & Fabrication
04.1900	Transportation Services
17.2904	Waiter/Waitress
01.0605	Water (Agricultural Resources) Conservationist

VARIABLE LIST

Variable	Source[1]	Values[2]
A. Central Variable		
Occupational mobility, actual and expected	Question 41 (15, 39)	1. Stable educators 2. Mobile educators (see text for definitions, p. 95)
B. Classificatory Variables		
1. Type of school	Directory of schools and initial correspondence with administrators (Appendix C)	1. Comprehensive and regular high school 2. Specialized vocational school: secondary, post-secondary, or both 3. Junior and senior colleges
2. Area of specialization	Question 1 (Also Appendix B, "Instructional Codes and Titles")	1. Agriculture and applied biological education 2. Office occupations, business education, and distributive education 3. Health occupations 4. Technical education 5. Trade and industrial education 6. Personal and public service education 7. Vocational counseling 8. Administration 9. Related instruction
C.1. Independent Variables - Demographic and Childhood		
1. Sex	Question 50 (40)	1. Female 2. Male
*2. Age	Question 51 (41)	1. 50 years of age and higher 2. 40-49 years of age 3. 30-39 years of age 4. Under 30 years of age
3. Race	Question 52 (42)	1. Nonwhite 2. White

Variable	Source[1]	Values[2]
*4. Marital Status	Question 53 (43)	1. Married, living with spouse 2. Single (widowed, divorced, separated or never married)
5. Number of children at home secondary school age and below	Question 55 (45)	1. Three or more 2. One or two 3. None
6. Size of home community	Question 49 (51)	1. Metropolitan area, (over 100,000) 2. Suburb of metropolitan area 3. Town of 10,000 to 100,000 4. Town of 2,500 to 9,999 5. Town of less than 2,500 6. Farm or open country
7. Enrollment of high school attended	Question 47 (49)	1. More than 3,000 2. 1,500 - 3,000 3. 750 - 1,449 4. 250 - 749 5. Less than 250 students
*8. Father's education	Question 46 (48)	1. Less than high school graduate 2. High school graduate 3. Some post-high school study, less than baccalaureate degree 4. Baccalaureate degree 5. Graduate degree - master's, specialist, or doctorate
*9. Father's socioeconomic status	Questions 44, 45 (46, 47)	Duncan index quartiles 1. Lowest 2. 3. 4. Highest
*10. Father's occupation	Questions 44, 45 (46, 47)	1. White collar 2. Blue collar 3. Farm
*11. Mother's education	Question 46 (48)	1. Less than high school graduate 2. High school graduate 3. Some post-high school study, less than baccalaureate degree 4. Baccalaureate degree 5. Graduate degree - master's, specialist, or doctorate

Variable	Source[1]	Values[2]
12. Nonprofessional organization	Question 38	1. More than three 2. Three 3. Two 4. One 5. None
C.2. Independent Variables - Geographic Factors		
13. Distance from current job to home community	Question 15a (--)	1. Less than 25 miles 2. 25 - 100 3. 100 - 200 4. 200 - 500 5. More than 500
14. Distance from current job to spouse's home community	Question 15b (--)	1. Less than 25 miles 2. 25 - 100 3. 100 - 200 4. 200 - 500 5. More than 500
15. Region of the country	Bureau of Census categories, Appendix B	1. Northeast 2. North Central 3. South 4. West
*16. Size and type of community in which school is located	Administrators questionnaire, question 1	1. Metropolitan area, (over 100,000) 2. Suburb of metropolitan area 3. Town of 10,000 to 100,000 4. Town of 2,500 to 9,999 5. Town of less than 2,500 6. Farm or open country
17. Size of community of last job compared to size of present community	Question 21 and administrator's questionnaire, question 1	1. Previous community larger 2. Community size is the same 3. Present community larger
*18. Distance from parents	Map, page 13	1. Less than 50 miles 2. 50 - 100 3. 101 - 300 4. More than 300
19. Distance from spouse's parents	Map, page 13	1. Less than 50 miles 2. 50 - 100 3. 101 - 300 4. More than 300

Variable	Source[1]	Values[2]
20. Population density of state per square mile	Bureau of Census 1970 Census reports	1. Less than 25 people per square mile 2. 26 - 60 3. 61 - 160 4. 161 - 400 5. More than 400
21. Distance from previous job	Map, page 13	1. Less than 50 miles 2. 50 - 100 3. 101 - 300 4. More than 300
*22. Interstate mobility: number of states represented by home community of youth, present community, previous job community, and community of undergraduate education	Map, page 13	1. All states alike 2. Two states represented 3. Three states represented 4. Four states represented
C.3. Independent Variables - Education		
23. High school major	Question 23	1. Vocational, commercial program 2. General curriculum program 3. College preparatory program
24. Undergraduate major	Question 24	1. Teaching 2. Nonteaching
*25. Undergraduate major	Question 24	1. Vocational 2. Nonvocational
*26. Educational attainment of respondent	Question 25	1. High school graduate 2. High school plus formal apprenticeship or some college 3. Associate degree or three-year degree 4. Baccalaureate degree 5. Master's 6. Six-year degree or doctorate
*27. Method of teacher preparation (teachers only)	Question 28	1. Part of degree program 2. Both, in degree program and outside degree program 3. Not part of degree program
28. Method of vocational skill acquisition (teachers only)	Question 29	1. In school program 2. Not in school program

Variable	Source[1]	Values[2]
*29. Method of vocational skill acquisition (teachers only)	Question 29	1. In school program 2. Cooperative educational program 3. Not in school program
30. Number of credit hours earned in counseling (counselors only)	Question 12a	1. None 2. 1 - 5 3. 6 - 10 4. 11 - 20 5. More than 20
31. Number of credit hours earned in vocational counseling (counselors only)	Question 12b	1. None 2. 1 - 5 3. 6 - 10 4. 11 - 20 5. More than 20
32. When choice was made to enter occupational education	Question 31	1. In high school or sooner 2. After other work

C.4. Independent Variables - Work Related

Variable	Source[1]	Values[2]
33. Tenure status	Question 4	1. Tenured 2. Not tenured
*34. Adjusted monthly income	Questions 5, 6	1. $1500 or more 2. $1300 - 1499 3. $1100 - 1299 4. $900 - 1099 5. Less than $900
35. Years in current system	Question 7	1. Greater than 12 years 2. 10 - 12 3. 7 - 9 4. 4 - 6 5. 1 - 3
36. Years in current position	Question 8	1. Greater than 12 years 2. 10 - 12 3. 7 - 9 4. 4 - 6 5. 1 - 3
37. Average (mean) class size for teachers	Question 10a	1. Less than ten students 2. 10 - 15 3. 16 - 22 4. 23 - 30 5. More than 30

Variable	Source[1]	Values[2]
38. Number of assigned counselees (counselors only)	Question 11	1. Less than 100 counselees 2. 100 - 200 counselees 3. 200 - 300 counselees 4. More than 300 counselees
39. Number of contact hours per week with students (teachers only)	Question 10b	1. Less than 11 2. 11 - 17 3. 18 - 24 4. 25 - 31 5. 32 - 38 6. Over 38
40. Reason for taking current educational employment (two factors with highest rating in each of three categories were chosen to represent their respective categories)	Question 14 (16)	1. Personal (Preference for geographic area, nearness of friends or relatives) 2. Combination of reasons equally important 3. Job-related, work environment (chance for advancement, philosophy of institution) 4. Job-related, intrinsic (individual freedom, challenge)
41. Full-time equivalent enrollment in vocational program	Administrator's questionnaire (Q. 2)	1. More than 3,000 students 2. 1,500 - 3,000 3. 750 - 1,499 4. 250 - 749 5. Less than 250
42. Full-time equivalent enrollment of school	Post-card request	1. More than 3,000 students 2. 1,500 - 3,000 3. 750 - 1,499 4. 250 - 749 5. Less than 250
C.5. Independent Variables - Previous Employment		
*43. Years of full-time noneducational work	Career sequence, page 15	1. More than 15 years 2. 11 - 15 3. 7 - 10 4. 4 - 6 5. 1 - 3
44. Years since related noneducational work	Career sequence, page 15	1. More than 14 years 2. 9 - 14 3. 4 - 8 4. 0 - 3

Variable	Source[1]	Values[2]
*45. Years in educational employment	Career sequence, page 15	1. More than 15 years 2. 11 - 15 3. 7 - 10 4. 4 - 6 5. 1 - 3
*46. Mean length of educational job	Career sequence, page 15	1. More than 7.0 years 2. 4.1 - 7 3. 2.1 - 4.0 4. 1.0 - 2.0
47. Years in occupational education	Question 18b (21b)	1. More than 20 years 2. 16 - 20 3. 11 - 15 4. 6 - 10 5. 1 - 5
*48. Change of enrollments, past school to present school	Question 22 (18); post-card inquiry	1. Previous school larger 2. Same size 3. Present school larger
49. Reasons for leaving previous job (two factors with highest rating in each of three categories were selected to represent their respective categories)	Question 20 (13)	1. Personal (Didn't like geographic area, too far from "home"-community or parents 2. Combination of reasons equally important 3. Job-related, intrinsic (little challenge in job, lack of individual freedom) 4. Job-related, work environment (little security or lack of tenure, little chance for advancement)
*50. Career sequence prior to entering occupational education employment	Career sequence, page 15	1. Formal education to vocational education 2. Formal education to work to vocational education 3. Work to formal education to vocational education also patterns with many alternations 4. Work to vocational education

C.6. Independent Variables - Professional Identity and Educational Plans

51. Group with which respondent identifies	Question 35	1. Educators or occupational educators 2. Educators and noneducators equally 3. Noneducator in the field of the respondent's specialty

Variable	Source[1]	Values[2]
52. Persons with whom respondent associates	Question 37	1. Other educators 2. Specialists outside education
*53. Number of vocational association memberships	Question 36	1. Two or three memberships 2. One 3. None
54. Number of professional education association memberships	Question 36	1. Two or three memberships 2. One 3. None
55. Number of professional association memberships	Question 38	1. More than six 2. 5 - 6 3. 3 - 4 4. Less than three
56. Current educational activity - toward which degree is respondent working	Question 32	1. None 2. Associate, three-year, or baccalaureate 3. Master's 4. Doctorate or specialist
*57. Educational orientation - a measure of past, current, and anticipated educational activity	Questions 25, 32, 34	1. Low educational attainment, no plans for further education 2. Low educational attainment, plans for further education 3. High educational attainment, no plans for further education 4. High educational attainment, plans for further education

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[1] Since two questionnaires were used to gather most of the data, a reference to a question number as a source indicates the item in the questionnaires (Appendix C). Cases in which the question number is different in the two questionnaires, the number for the item in the "leavers" questionnaire is placed in parenthesis.

[2] Recoding of the original data has often been done to aid in the analysis and to align the values so that the assigned larger values of a variable corresponded with anticipated greater mobility. See Appendix D.

*These variables were used in the discriminant analysis.

BUREAU OF CENSUS REGION DEFINITIONS

I. Northeast

   A. New England

      1. Maine
      2. New Hampshire
      3. Vermont
      4. Massachusetts
      5. Rhode Island
      6. Connecticut

   B. Middle Atlantic

      1. New York
      2. New Jersey
      3. Pennsylvania

II. North Central

   A. East North Central

      1. Ohio
      2. Indiana
      3. Illinois
      4. Michigan
      5. Wisconsin

   B. West North Central

      1. Minnesota
      2. Iowa
      3. Missouri
      4. North Dakota
      5. South Dakota
      6. Nebraska
      7. Kansas

III. South

   A. South Atlantic

      1. Delaware
      2. Maryland
      3. District of Columbia
      4. Virginia
      5. West Virginia
      6. North Carolina
      7. South Carolina
      8. Georgia
      9. Florida

   B. East South Central

      1. Kentucky
      2. Tennessee
      3. Alabama
      4. Mississippi

   C. West South Central

      1. Arkansas
      2. Louisiana
      3. Oklahoma
      4. Texas

IV. West

   A. Mountain

      1. Montana
      2. Idaho
      3. Wyoming
      4. Colorado
      5. New Mexico
      6. Arizona
      7. Utah
      8. Nevada

   B. Pacific

      1. Washington
      2. Oregon
      3. California
      4. Alaska
      5. Hawaii

APPENDIX C

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

COLLEGE OF EDUCATION

BUREAU OF EDUCATIONAL RESEARCH

288 EDUCATION BUILDING
URBANA, ILLINOIS 61801
AREA CODE 217-333-4382

December 6, 1972

Dear Educator:

The Bureau of Educational Research of the University of Illinois is conducting an important national survey of vocational-technical educators to determine some of the factors related to the labor markets for various types of vocational education leadership personnel. This study is supported by the Board of Vocational Education and Rehabilitation of the state of Illinois, and uses funds supplied by the United States Office of Education.

More specifically, the survey will attempt to identify the ways in which supply and demand of vocational education personnel are affected by such factors as mobility, hiring practices, certification, age, tenure, availability of competing labor markets, and career ladders and lattices. One outcome of the information gathered will be a correspondence course carrying university credit designed to help the participant relate more positively to leadership in occupational education. The basic goal is to improve ways of identifying and educating personnel to provide more and better vocational-technical education.

We believe this to be the first national study of its kind directed exclusively toward vocational-technical educators. The term "vocational-technical educators" as used here refers to all full-time instructors, counselors, coordinators, and administrators whose job assignment is 50 per cent or more in the area of vocational or technical programs. Vocational-technical programs are those secondary and post-secondary level programs (but generally less than a baccalaurette) which have the goal of preparing individuals for entry-level employment.

As your institution was one of nearly three-hundred schools randomly selected from all states in the union, we request your cooperation in completing the questionnaire at your earliest convenience and returning it to us in the self-addressed envelope.

The code number on the first page is used solely for the purpose of following-up nonrespondents. The information obtained from your questionnaire will be kept strictly confidential and will be treated as anonymous data.

You can aid our profession and save follow-up costs by responding promptly. The self-addressed, postage paid envelope is provided for your convenience. Although the questionnaire is long, we have attempted to make the questions as quick and as easy to answer as possible; written-out answers have been kept to a minimum. The pilot study indicates that an average of less than 30 minutes is sufficient to complete this questionnaire. We sincerely appreciate your help in making this study a success.

A complete copy of the final report will be sent to your institution upon completion.

Respectfully yours,

Rupert N. Evans

Rupert N. Evans
Professor of Vocational
and Technical Education

RNE:lw

Enclosures: 1

OFFICE USE ONLY

State ____________
School ____________
Number ____________

UNIVERSITY OF ILLINOIS
BUREAU OF EDUCATIONAL RESEARCH

Study of Factors Related to Supply and Demand of
Vocational–Technical Leadership Personnel

A. The questions in this section seek information about your current employment. *(Please circle one code number for each question unless instructed otherwise.)*

---

1. In which one of the following major areas is your primary assignment?

Agricultural and applied biological occupations	01
Office occupations	02
Business: management and data-processing occupations	03
Distributive occupations	04
Health occupations	05
Technical, trade, and industrial occupations	06
Personal and public service occupations (cosmetology, police science, child care, etc.)	07
Home economics occupations or home making	08
Counselor	09
Coordination or supervision	10
Total vocational program (administrator)	11
Related curriculum	12
Other (specify) ____________________	13

2. What is your specific job title? ____________________

3. What percentage of time do you spend on each of the following? (Must total 100%)

a. Administration or supervision	______ %
b. Coordination	______ %
c. Counseling	______ %
d. Vocational or technical teaching	______ %
e. Research	______ %
f. Other (specify) ____________	______ %
	100 %

4. Which one of the following best describes your tenure status?

I am tenured	1
I am not tenured	2
I am on probationary status	3
School system does not offer tenure	4
School system offers tenure but not for specific positions	5
School system does offer tenure but not for this position	6
Other (specity) ____________________	7

5. What is your current school year contractual salary?

$ 3,000 – 4,999	01
$ 5,000 – 6,999	02
$ 7,000 – 8,999	03
$ 9,000 – 10,999	04
$11,000 – 12,999	05
$13,000 – 14,999	06
$15,000 – 16,999	07
$17,000 – 18,999	08
$19,000 – 20,999	09
$21,000 – 22,999	10
$23,000 or more	11

6. What is your contractual period?

9–10 months	1
11–12 months	2
Other (specify) ____________________	3

7. How many years have you been employed by your current school system including this year? _______ years

8. How many years have you been employed in your current position within your school system? _______ years

9. What did your predecessor––the one who held your job immediately before you took it––do to vacate your job?

Don't know	00
This was a new job, no predecessor	01
Predecessor died	02
Retired	03
Moved to another position within school	04
Returned to studies	05
Moved into business, industry, or self-employment	06
Took civil service job	07
Took employment in another school	08
On temporary leave	09
Other (specify) ____________________	10

(If you are an instructor, please answer the questions in the box below. If not an instructor go on to question 1, page 4.)

10a. What is your average class size? _______ students

b. How many contact hours do you have with classes each week?

Less than 11	1
11–17	2
18–24	3
25–31	4
32–38	5
Over 38	6

(If you are a counselor, *please answer the questions in the box below. If not a counselor, go on to question 13 below the box.)*

11. How many advisees or counselees do you have assigned to you each term?

Less than 50	1
50 – 100	2
100 – 150	3
150 – 200	4
200 – 250	5
250 – 300	6
300 – 350	7
350 - 400	8
More than 400	9

(The shading is used to direct your attention to the correct response column.)

12a. **How many credit hours have you earned** in counseling?

b. **How many credit hours have you earned in** vocational guidance or counseling?

None	1	1
1– 5	2	2
6–10	3	3
11–15	4	4
16–20	5	5
More than 20	6	6

(The shading is used to direct your attention to the correct response column.)

13a. **Which methods did you use when you were** looking for your current job? *(Circle one or more.)*

b. **Which of these methods produced** acceptable job offers? *(Circle one or more.)*

Friend, relative, or co-worker	01	01
Friend in the hiring institution	02	02
College placement office	03	03
Newspaper ad: position available	04	04
State employment agency	05	05
Personal letter of inquiry	06	06
Direct personal application	07	07
Professional magazine	08	08
Professional association	09	09
Commercial Employment agency	10	10
Did nothing and was recruited	11	11
Other (specify) ____________	12	12

14. Rate the importance of the following factors in your taking your current job. *(Circle one number on each line. "NA" indicates "not applicable".)*

				Importance		
	NA	Low				High
Increase in salary	0	1	2	3	4	5
Preference for geographic area	0	1	2	3	4	5
Nearness of friends or relatives	0	1	2	3	4	5
Prestige of school	0	1	2	3	4	5
Prestige of position	0	1	2	3	4	5
Number of jobs available	0	1	2	3	4	5
Desire for experience or training	0	1	2	3	4	5
Individual freedom	0	1	2	3	4	5
Challenge	0	1	2	3	4	5
Security or tenure	0	1	2	3	4	5
More student contact	0	1	2	3	4	5
Part-time teaching	0	1	2	3	4	5
Chance for advancement	0	1	2	3	4	5
Philosophy of institution	0	1	2	3	4	5
Other (specify) ____________	0	1	2	3	4	5

15a. **How far is your current work from the childhood community (before age 18) with which you identify most closely?**

b. **How far is your current job from the childhood community (before age 18) with which your spouse identifies most closely?** ***(If not married, go on to question 16.)***

Less than 25 miles	1	1
25 – 50 miles	2	2
50 – 75 miles	3	3
75 – 100 miles	4	4
101 – 150 miles	5	5
151 – 200 miles	6	6
201 – 300 miles	7	7
301 – 500 miles	8	8
More than 500 miles	9	9

16. To what extent are each of the items below a problem for persons in your position? *(Circle one number on each line.)*

	Not a Problem				A big Problem
Low salary	1	2	3	4	5
Little chance for professional development	1	2	3	4	5
Little preparation time	1	[illegible]	3	4	5
Unreasonable job assignment (e.g., classes too large, too many advisees)	1	2	3	4	5
Incompatibility with job	1	2	3	4	5
Lack of professional support (counselors, psychologists, aides)	1	2	3	4	5
Lack of professional leadership (local, state, national)	1	2	3	4	5
Poor quality students	1	2	3	4	5
Conflict with administration	1	2	3	4	5
Other (specify) ____________	1	2	3	4	5

B. The questions in this section seek information about your previous employment. If this is your first full-time job (excluding summer vacation employment), skip this section and continue with Section C, page 7. *(Please circle one code number for each question unless instructed otherwise.)*

---

17. How many years of full-time noneducational work experience have you had? (Full-time means 30 hours a week or more, or time accepted by states or other institutions for certification or employment; do include summer work.)

Less than 1 year	1
1– 2 years	2
3– 4 years	3
5– 7 years	4
8–10 years	5
Over 10 years	6

18a. **How many years of full-time employment have you had in educational institutions?**

b. **How many years of full-time employment have you had in vocational or technical education?**

	a	b
Less than 5 years	1	1
6–10 years	2	2
11–15 years	3	3
16–20 years	4	4
More than 20 years	5	5

19. How many years of full-time noneducational work experience have you had in the area of specialization in which you are currently teaching? *(If you are not teaching, go on to the next question.)*

Less than 1 year	1
1– 2 years	2
3– 4 years	3
5– 7 years	4
8–10 years	5
Over 10 years	6

20. Rate the importance of the following factors in your leaving your immediately previous employment. *(Circle one number on each line. "NA" indicates "not applicable.")*

		Importance				
	NA	Low				High
Low salary	0	1	2	3	4	5
Little challenge in job	0	1	2	3	4	5
Little security or lack of tenure	0	1	2	3	4	5
Lack of student contact	0	1	2	3	4	5
Job assignment unreasonable	0	1	2	3	4	5
Lack of individual freedom	0	1	2	3	4	5
Job lacked prestige	0	1	2	3	4	5
School lacked prestige	0	1	2	3	4	5
Little chance for advancement	0	1	2	3	4	5
Problem with administration or colleagues	0	1	2	3	4	5
Didn't like geographic area	0	1	2	3	4	5
Too few friends or relatives near	0	1	2	3	4	5
Too far from "home" community or parents	0	1	2	3	4	5
Too far from spouse's "home" community or parents	0	1	2	3	4	5
Other (specify) ______________________	0	1	2	3	4	5

21. In what size community did you work immediately prior to your current community?

Metropolitan area, (over 100,000)	1
or	
Suburb of metropolitan area	2
Town of 10,000 to 100,000	3
Town of 2,500 to 9,999	4
Town of less than 2,500	5
Farm or open country	6
Same community, did not move	7

22. What was the full-time equivalent enrollment of the school in which you previously worked? *(If you did not work in a school previously, go on to the next question.)*

Less than 250	1
250– 749	2
750–1,449	3
1,500–2,999	4
3,000–4,999	5
5,000–9,999	6
Over 10,000	7

C. This section seeks information about your educational background. *(Circle one code number for each question unless instructed otherwise.)*

---

23. What was your major concentration of study in high school?

Vocational-technical	1
Commercial or business	2
College prep	3
General curriculum	4
Other (specify) ______________________	5

24. What was your major curriculum emphasis in your post-secondary undergraduate education?

Did not go to college	0
Vocational, industrial, or occupational (nonteaching)	1
Vocational, industrial, or occupational (teaching)	2
Academic or nonoccupational (nonteaching)	3
Academic or nonoccupational (teaching)	4

25. What is the highest level of formal education you have completed?

High school graduate	01
High school & formal apprenticeship schooling	02
Some college but no degree	03
Associate degree	04
Three year degree	05
B.A. or B.S. degree	06
M.A., M.S., or M.Ed. or equivalent degree	07
Six year degree	08
Ph.D. or Ed.D.	09
Other (specify) ______________________	10

26. Do you currently hold a state license with your state in an occupational area other than education? (Licensed engineer, nurse, broker, contractor, etc.)

Yes	1
No	2

27. What type of educational certificate or certificates do you currently possess? *(Circle code number of all which apply.)*

None	1
Temporary teaching certificate	2
Academic teaching certificate	3
Vocational teaching certificate	4
Counseling & guidance certificate	5
Supervision certificate	6
Administrative certificate	7
Other (specify) ______________________	8

(If you are an instructor, answer the questions in the box below. If not an instructor, go on to question 30.)

28. By what method did you acquire your teacher preparation? *(Circle one or more.)*

Part of teacher preparation program leading to teaching degree	1
Special courses or workshops not leading to vocational certificate	2
Special courses or workshops leading to vocational certificate	3
Informal, on-the-job training	
Masters in Teaching following degree in specialized field	5
Special internship, (specify) ______________________	6
Other (specify) ______________________	7

29. What was the major method or methods by which you acquired your technical or vocational subject competencies? *(Circle one or more.)*

At home (e.g., farm)	01
Vocational program in high school	02
On-the-job training or work experience	03
Formal apprenticeship	04
In a vocational post-secondary program	05
In an academic post-secondary program	06
In a cooperative education or other part-time program	07
In a college teacher education program as a prospective teacher	08
In a four-year technical program	09
Other (specify) ______________________	10

30. If you were in military service, how was your service influential in your career?

Was not influential	1
Training in military in field in which you presently work	2
Teaching experience in military aroused interest in education	3
Other (specify) ______________________	4

31. Why did you choose your present occupation?

I always wanted to be an educator in my field	1
I could not get work in my skill area	2
I saw an existing need for an educator in my skill area, so I left other employment	3
I got interested in education through part-time teaching	4
I got interested in education through military teaching experience	5
Other (specify) ______________________	6

D. This section seeks information about professional identity and career development activities and plans. *(Circle one code number for each question unless instructed otherwise.)*

---

32. Toward which degree are you presently working?

None	0
Associate degree	1
Special 2 or 3 year degree	2
B.A. or B.S. degree	3
M.A., M.S. or M.Ed.	4
Six year degree	5
Ph.D. or Ed.D.	6
Other (specify) ______________	7

33. Toward which professional certificate are you presently working?

None, (already have the certificate I want)	0
None, (none is required in my job)	1
Temporary teaching certificate	2
Academic teaching certificate	3
Vocational teaching certificate	4
Counseling & guidance certificate	5
Supervision certificate	6
Administrative certificate	7
Other (specify) ______________	8

34. Do you plan to enroll in any formal education courses or programs beyond your current involvement?

Yes	1
No	2
Not sure	3

35. Do people in your position tend to identify themselves as *(Circle one number for each item.)*

	Low Identity				High Identity
Vocational educators, counselors, or administrators	1	2	3	4	5
Technical educators, counselors, or administrators	1	2	3	4	5
Educators	1	2	3	4	5
Specialists in a field (example: "counselor" but not "vocational counselor", "nurse" but not "nurse educator", "auto mechanic" but not "auto mechanic instructor", "administrator" but not "vocational education administrator")	1	2	3	4	5
Other (specify) ______________	1	2	3	4	5

36. To which of the following organizations have you belonged in the past five years? *(Circle as many as apply.)*

American Vocational Association	1
State Vocational Association	2
State Vocational Association in your speciality area	3
National Education Association	4
State Education Association	5
American Federation of Teachers or United Federation of Teachers.	6
Other professional education association (specify) ______________________________ . .	7

37. With which group of people do you associate more closely?

With persons in your specialty area but outside educational institutions (examples: welders, nurses, county agents (agriculture), cosmotologists, businessmen, chefs, truck drivers, etc.)	1
With persons in your specialty area who are in educational institutions (examples: instructors of nursing, welding, food services, distributive education; school counselors; school administrators)	2

38. How many different memberships have you held in the following types of organizations in the past five years? *(Please circle one number in each column.)*

	Professional Organizations			
	Local	State	Regional or National	Service, civic, political and religious organizations
Number of memberships	0	0	0	0
	1	1	1	1
	2	2	2	2
	3	3	3	3
	4	4	4	4
	5	5	5	5
	6	6	6	6
	7 or more	7 or more	7 or more	7 or more

39. How many different executive offices (president, vice-president, secretary, board of directors, committee chairman, etc.) have you held in the following organizations in the past five years? *(Please circle one number in each column.)*

	Professional Organizations			
	Local	State	Regional or National	Service, civic, political and religious organizations
Number of offices held	0	0	0	0
	1	1	1	1
	2	2	2	2
	3	3	3	3
	4	4	4	4
	5 or more	5 or more	5 or more	5 or more

40. Do you feel that in the following organizations you are more active or less active than vocational educators with similar job assignments? *(Please circle one number in each row.)*

	Less Active		About Average		More Active
a. Employment related	1	2	3	4	5
b. Professional: Local	1	2	3	4	5
State	1	2	3	4	5
National (or regional)	1	2	3	4	5
c. Service, civic, religious, political, etc.	1	2	3	4	5

41. Which of these statements best describes a change in employment you expect during the next five years?

a. None, the same job at the same school (Skip to question 42.)	1
b. The same job but different school (Answer part g. below only.)	2
c. A different job in the same school (Answer part f. below only.)	3
d. A different job in a different school (Answer f. and g. below only.)	4
e. Another activity in a different setting (Answer part h. below only.)	5

f. Change in position expected (in education):

Teacher	1
Curriculum developer or coordinator	2
Coop program coordinator	3
Counselor	4
Researcher	5
Administrator	6
Other (specify) ______________________	7

g. Different school expected:

High school	1
Vocational secondary school	2
Vocational post-secondary school	3
Junior or community college	4
Senior college	5
Teacher education program	6
Other (specify) ______________________	7

h. Other activity:

Full-time student	1
Full-time homemaker	2
Retire	3
Work in area of specialty outside of education	4
Work in other field	5
Other (specify) ______________________	6

42. Many courses designed for self-study are now making use of recorded tapes. Do you own, have access to, or intend to purchase a

Cassette tape recorder

Yes	1
No	2

Reel tape recorder

Yes	1
No	2

43. If courses offering university credit were made available on the topics listed below, would you be interested in participating? If so, please identify the method (correspondence course, extension course or on-campus course) that you would prefer. *(Circle one code number for each topic in which you would be interested in taking a course.)*

	PREFERRED METHOD		
	Corresp.	Extension	On-campus
a. Improvement of instruction; curriculum and methods	1	2	3
b. Communication skill; verbal, written, & community relations	1	2	3
c. School/vocational/technical program administration or supervision	1	2	3
d. Research; understanding and application	1	2	3
e. Recent legislation; provisions, use and impact	1	2	3
f. Leadership and interpersonal relations development	1	2	3
g. Guidance and counseling	1	2	3
h. Further development of competence in area of responsibility	1	2	3
i. Other (specify) ____________________	1	2	3

D. The items in this section are designed to gather information on geographic mobility and career sequence.

INSTRUCTIONS FOR COMPLETING MAP

1. On the map please locate as closely as possible the most important community or communities which you consider the "home" communities of your youth (before age 18) by placing a dot in the proper location(s) accompanied by the number "1".

2. Please locate as closely as possible the location of your spouse's "home" community(ies) by placing a dot in the proper place(s) accompanied by the number "2". (If no spouse, skip to the next instruction.)

3. As closely as possible, please identify your present location with a dot and the number "3".

4. Please locate with a dot and the number "4" where your parents live. (If your parents are deceased, please skip to the next instruction.)

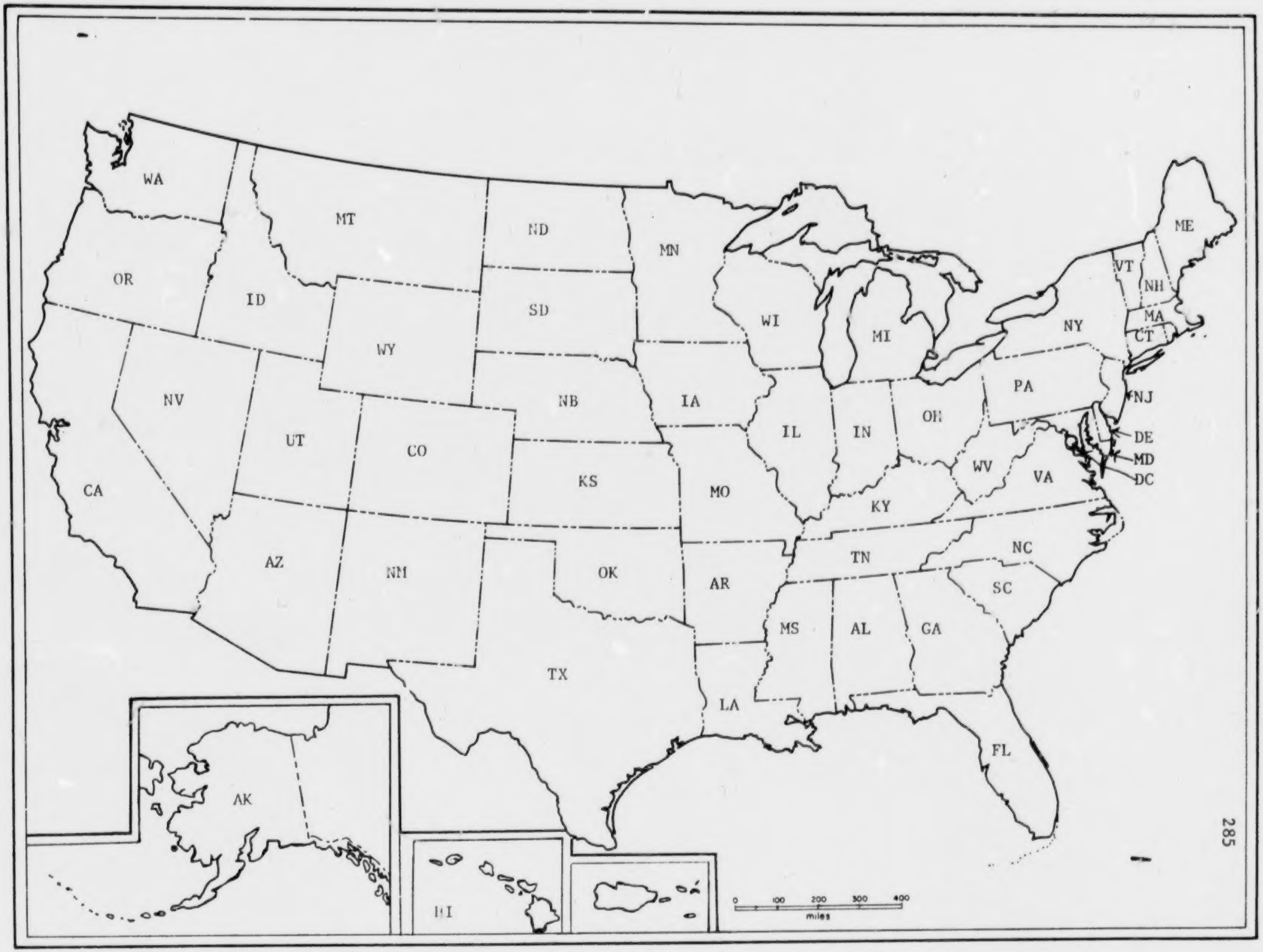
5. Please locate with a dot and the number "5" where your spouse's parents live. (If deceased, please skip to the next instruction.)

6. Please locate with a dot and the number "6" where you worked just prior to your current job.

7. Please locate with a dot and the number "7" where you held your first full-time job (excluding summer vacation work.)

8. Please locate with a dot and a number "8" where you received your undergraduate education. (If you have not attended college, skip to the next instruction.)

9. If you will still be in the labor force five years from now, where would you expect to be working? Please locate by circling the state, region, or exact location.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miles

INSTRUCTIONS FOR CAREER SEQUENCE CHART

1. In column B of the table, please list in sequence all major steps in your career. Please include all full-time occupations which you held for more than six months. Include part-time work and summer vacation work only if the experience affected your career.

   Also include all educational programs except summer institutes and workshops unless they were part of a degree program. Include apprenticeship and on-the-job training and military service and training but you need not list the state or country in which you served except for those locations in which you were stationed for at least one year.

2. In column A give the sequence number of the activity. If you did two things at the same time, such as going to college and working full-time, give them the same sequence number.

3. In column C list the state or country in which you did the activity.

4. The dates given in column D should be year-to-year dates.

5. Please place the total number of years to the nearest whole year in column E.

6. List all degrees and certificates (from programs of two or more courses) and give the major or field of study in column F.

7. If you are married, please circle the sequence number corresponding to the time when you got married.

8. Please note the following example:

CAREER SEQUENCE EXAMPLE

A. Seq. No.	B. Type of Activity (Be specific)	C. State	D. Date From-To	E. No. of Years	F. Degree/cert. Major
1	High school	Oregon	'50-54	4	Gen. Curriculum
2	Navy - welding training	Pacific	'54-58	4	
③	Welder in industry	Californ.	'58-60	2	
4,5	Self-employed welder	Californ	'60-64	4	
5	College 4 year.	Californ	'63-67	4	BS/Ind. Ed. State vocat. lic.
6	Welding instructor - Comp. High school	Oregon	'67-70	3	
7	Vocat. Coordinator - Same High School	Oregon	70 -	3	

CAREER SEQUENCE

A. Seq. No.	B. Type of Activity (Be specific)	C. State	D. Date From-To	E. No.of Years	F. Degree/cert. Major

F. This group of questions asks about your home background.

44. In what kind of business or industry was your father or the male head of the house employed? ____________

45. What was his job title and what kind of work did he do? ____________

46. What was the highest level of education reached by your father or male head of the house and the highest level of education reached by your mother or female head of the house by the time you left high school?

	Father's Education	Mother's Education
I don't know	00	00
None, or some grade school	01	01
Completed grade school	02	02
Some high school but did not graduate	03	03
Graduated from high school	04	04
Vocational or business school after high school	05	05
Some junior or regular college but did not graduate	06	06
Two-year degree	07	07
Graduated from regular four-year college	08	08
Master's degree	09	09
Some work toward doctorate or professional degree	10	10
Completed doctorate or professional degree	11	11
Other (specify) ____________	12	12

47. What was the size of the high school you attended for most or all of your high school education?

Less than 250 students	1
250– 749	2
750–1,449	3
1,500–3,000	4
More than 3,000	5

48. When you were a senior in high school, which occupation were you planning to enter?

Specify: ____________

49. In what size community was your high school located?

Metropolitan area, (over 100,000) or	1
Suburb of metropolitan area	2
Town of 10,000 to 100,000	3
Town of 2,500 to 9,999	4
Town of less than 2,500	5
Farm or open country	6

G. The following questions will help us group your responses with those of others in the study. One of the purposes of the study is to determine whether any differences in supply and demand occur that are related to sex, age, ethnic identity, or marital and family status. Again, this information like the rest will be kept confidential.

---

50. What is your sex?

Male	1
Female	2

51. In which year were you born? Year of birth ______

52. What is your ethnic background?

White	1
Black/Negro	2
Oriental	3
Spanish Surname	4
American Indian	5
Other (specify) ______	6

53. What is your marital status?

Married, living with spouse	1
Single (widowed, divorced or separated, or never married) *(Skip to question 56.)*	2

54. If your spouse works for pay, what kind of work does he or she do? ______

______

55. If you have children living at home, how many are there in each category?

Number of preschool	______
Number in elementary grades	______
Number in secondary school	______
Number above secondary school age	______

56. Please add on the back page any information or comments which you think would be important in understanding your responses or which would be useful in the overall study of supply and demand.

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

COLLEGE OF EDUCATION

BUREAU OF EDUCATIONAL RESEARCH

288 EDUCATION BUILDING
URBANA, ILLINOIS 61801
AREA CODE 217-333-4382

December 6, 1972

Dear Administrator:

Thank you for your help in identifying and sending to us a list of your full-time administrators, counselors, coordinators, and instructors whose assignment is 50 per cent or more in vocational or technical education. As you recall, the purpose of this national survey for which these names were solicited is to study the ways in which supply and demand of these educators are affected by such factors as mobility, hiring practices, certification, age, tenure, sex, availability of competing labor markets, and career ladders and lattices. The basic goal is to improve ways of identifying and educating personnel to provide more and better vocational-technical education. The study is financed by the United States Office of Education and supported by the Board of Vocational Education and Rehabilitation of the state of Illinois.

As explained in the initial letter, the persons on the list will be asked to complete a questionnaire and return it to us. Attached to this letter is a questionnaire about your institution and its practices which we are asking you or someone you designate to complete. Since this is the only instrument of its kind sent to your institution, the careful completion and return of it is crucial in our study.

We would also appreciate your filling out one of the other questionnaires as well. If you simply don't have time to do both questionnaires, please do the attached and return it in the self-addressed, stamped envelope.

Incidently, if you requested that the questionnaires be sent directly to the individuals on the lists, this has been done. If you did not make such a request, we have bulk-mailed the instruments to you in this package , and we ask that you have your secretary distribute them for us. Self-addressed envelopes are attached to each questionnaire so you have no further responsibility for collecting or checking on completions. However, any encouragement you can give your staff to complete and return their questionnaires will be greatly appreciated.

We remind you that all information gathered from your questionnaires as well as from the others will be kept confidential and will be treated in a way to assure anonymity.

Your help in making this study a success is greatly appreciated. We look forward to sending your institution a copy of the final report upon completion. Should you have any questions about the instructions or the study, please write or call A. Emerson Wiens or myself at the address in the letterhead.

Respectfully yours,

Rupert N. Evans

Rupert N. Evans
Professor of Vocational
and Technical Education

RNE:lw

Enclosures

SCHOOL QUESTIONNAIRE

OFFICE USE ONLY

State ______________

School ______________

UNIVERSITY OF ILLINOIS
BUREAU OF EDUCATIONAL RESEARCH

Study of Factors Related to Supply and Demand of
Vocational–Technical Leadership Personnel

(Please circle one code number for each question unless instructed otherwise.)

---

1. In what size community is your school?

Metropolitan area, (over 100,000)	1
or	
Suburb of metropolitan area	2
Town of 10,000 to 100,000	3
Town of 2,500 to 9,999	4
Town of less than 2,500	5
Farm or open country	6

2. What is the full-time-equivalent vocational-technical enrollment of your school?

Less than 250	1
250– 749	2
750–1,499	3
1,500–2,999	4
3,000–4,999	5
5,000–9,999	6
10,000–14,999	7
15,000 or more	8

3. What was the change this year (1972–73) over last year in the total number of full-time administrators, counselors, coordinators, and instructors who are assigned 50 per cent or more to vocational or technical education? *(Please place the number of new positions or deleted positions in the table below.)*

	POSITIONS			
	No Change	New	Deleted	Don't Know
Administrators				
Coordinator				
Counselors				
Instructors: Agricultural and applied biological occupations				
Business and office occupations, distributive education				
Health occupations				
Technical, trade and industrial				
Personal and public service (includes home economics & home-making)				

4. How many of the administrators who are included in this study (full-time, 50 per cent or more in administration and 50 per cent or more in vocational or occupational education) are new in their position this year (1972–73)?

Number of new administrators ________

5. How many of your instructors, coordinators, and counselors (excluding administrators) who are included in this study (full-time, 50 per cent or more in vocational, technical, or occupational education) are new in their positions this year?

Number of new faculty and staff ________

6a. To what degree do you or does your institution use the following resources in recruiting vocational/technical instructors?

b. To what degree do you or does your institution use the following resources in recruiting vocational counselors and administrators?

	Not used				Used much		Not used				Used much
Department chairman	1	2	3	4	5	68/9	1	2	3	4	5
Professional colleagues & friends	1	2	3	4	5	69/9	1	2	3	4	5
College placement offices	1	2	3	4	5	70/9	1	2	3	4	5
College vocational education offices	1	2	3	4	5	71/9	1	2	3	4	5
Respected professional in another institution	1	2	3	4	5	72/9	1	2	3	4	5
State employment agency	1	2	3	4	5	73/9	1	2	3	4	5
Commercial employment agency	1	2	3	4	5	74/9	1	2	3	4	5
Local businesses, industries, hospitals, etc.	1	2	3	4	5	75/9	1	2	3	4	5
Advertisements	1	2	3	4	5	76/9	1	2	3	4	5
Professional associations	1	2	3	4	5	77/9	1	2	3	4	5
Other (specify)________________	1	2	3	4	5	78/9	1	2	3	4	5

7. How much weight is placed on the following factors by you or your institution when considering hiring new vocational personnel (teacher, counselor, or coordinator)? *(Please circle one number on each line.)*

	No weight				Much weight
Occupational experience in education	1	2	3	4	5
Occupational experience not in education	1	2	3	4	5
Academic preparation	1	2	3	4	5
College hours taken in specialty area	1	2	3	4	5
College hours taken in professional education	1	2	3	4	5
Research and publications	1	2	3	4	5
Evidence of "excellence" in performance of job	1	2	3	4	5
Whether this is home community of candidate	1	2	3	4	5
Other (specify)________________	1	2	3	4	5

8. Do you have difficulty locating any particular type of personnel? If so, which type? *(Circle all that apply)*

Administrator	1
Coordinator	2
Counselor	3
Instructor:	
Agricultural and applied biological occupations	4
Business and office occupations; distributive education	5
Health occupations	6
Technical, trade and industrial occupations	7
Personal and public service occupations	8

9. Please rank in order the actions usually taken when your institution or district has difficulty finding personnel to fill a job. (Let number "1" be the first action taken.)

Increase salary for the position . . . . ________

Increase rank of the position (if appropriate) . . . . ________

Enhance the job description (e.g., lighter work load, etc) . ________

Lower the hiring standards . . . . ________

Recruit more widely . . . . ________

Pay travel for interviewees . . . . ________

Reduce or curtail your program . . . . ________

Other (specify)______________________________ . . ________

10a. **What are the in-service education needs of most vocational and technical instructors who have not completed a teacher education program?** ***(Circle one or more.)***

b. **What are the in-service education needs of vocational and technical instructors who have completed a teacher education program but have had little work experience in their area of instruction?** ***(Circle one or more.)***

Basic understanding of history and philosophy of American education system	1	49	1
Communication skills	2	50	2
Human relations skills	3	51	3
Curriculum development skills	4	52	4
Organization and Administration skills	5	53	5
Technical skills	6	54	6
Teaching skills	7	55	7
Other (specify) ______________________	8	56	8

11. Does your state require a certificate for vocational instructors in your institution?

Yes	1
No	2

12. Does your school or district have requirements for vocational instructors beyond those required of staff in other similar schools in your state?

No	1
Require more occupational experience	2
Require more hours of college preparation	3
Require degree	4
Not familiar with state certificate	5
Other (specify)____________________	6

13. A follow-up study will be done with vocational educational personnel who have left some of the institutions included in this study. If requested, could you provide the names and addresses of vocational educators who have left your institution over the last five years?

Yes	1
No	2

Please add any comments which would help us understand the supply and demand aspects of vocational educators, particularly as they may apply to your institution's situation. Thank you.

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

COLLEGE OF EDUCATION

BUREAU OF EDUCATIONAL RESEARCH

288 EDUCATION BUILDING
URBANA, ILLINOIS 61801
AREA CODE 217-333-4382

Dear Educator:

The Bureau of Educational Research of the University of Illinois is conducting an important national survey of vocational-technical educators to determine some of the factors related to the labor markets for various types of vocational education leadership personnel. This study is supported by the Board of Vocational Education and Rehabilitation of the state of Illinois, and uses funds supplied by the United States Office of Education.

More specifically, the survey will attempt to identify the ways in which supply and demand of vocational education personnel are affected by such factors as mobility, hiring practices, certification, age, tenure, availability of competing labor markets, and career ladders and lattices. One outcome of the information gathered will be a correspondence course carrying university credit designed to help the participant relate more positively to leadership in occupational education. The basic goal is to improve ways of identifying and educating personnel to provide more and better vocational-technical education.

We believe this to be the first national study of its kind directed exclusively toward vocational-technical educators. The term "vocational-technical educators" as used here refers to all full-time instructors, counselors, coordinators, and administrators whose job assignment is 50 per cent or more in the area of vocational or technical programs. Vocational-technical programs are those secondary and post-secondary level programs which have the goal of preparing individuals for entry-level employment, but which are below the baccalaureate degree level.

Nearly three hundred schools were drawn in a stratified random sampling. Questionnaires were sent to the occupational educators in those institutions. Since, as already stated, we were interested in studying the affects of mobility, availability of competing labor markets, and career patterns on the labor market of occupational educators we asked an administrator at each institution if he could furnish the addresses of those occupational educators who had left that institution in the last five years. Nearly two-thirds of the administrators replied and this follow-up questionnaire was prepared. Some of the specific questions we are attempting to answer are: In which curricular areas and in which regions of the country is job mobility greatest? In what important ways are those who left the institutions different from those who have stayed at that institution for a number of years? In what kind of employment–education or noneducation–are those that left engaged?

Since you were identified as one of those who left an institution in the study, we request your cooperation in completing and returning this questionnaire. While the main study had a population of over 4,000 educators, the follow-up of "leavers" of which you are a part, has a population of only 300. Hence, your reply is very important. The code number on the first page is used solely for the purpose of following-up nonrespondents. The information obtained from your questionnaire will be kept strictly confidential and will be treated as anonymous data. Neither your past nor present employer will see your responses.

You can aid our profession by participating in this study, and an early response will save follow-up costs. The self-addressed, postage paid envelope is provided for your convenience. Although the questionnaire appears long most questions are quick and easy to answer: written-out responses have been kept to a minimum. The pilot study indicates that thirty minutes is sufficient for most individuals to complete the questionnaire.

We sincerely appreciate your help in making this study a success. We look forward to sending you a summary of the findings next fall. (Should you plan to be moving, you may wish to give us your forwarding address so you will get the summary.) Should you have any questions, please write or call Emerson Wiens or me at the address in the letterhead.

Sincerely yours,

Rupert N. Evans

Rupert N. Evans
Professor of Vocational and Technical Education

RNE:lw

OFFICE USE ONLY

State ______

School ______

Number ______

UNIVERSITY OF ILLINOIS
BUREAU OF EDUCATIONAL RESEARCH

Study of Factors Related to Supply and Demand of
Vocational–Technical Leadership Personnel

A. The questions in this section seek information about your position at ______________ just prior to your leaving that institution. Throughout this questionnaire, that institution will be referred to as "that school." Please complete all the items as best you remember the situation. *(Please circle one code number for each question unless instructed otherwise.)*

---

1. In which one of the following major areas was your primary assignment?

Agricultural and applied biological occupations	01
Office occupations	02
Business: management and data-processing occupations	03
Distributive occupations	04
Health occupations	05
Technical, trade, and industrial occupations	06
Personal and public service occupations (cosmetology, police science, child care, etc.)	07
Home economics occupations or home making	08
Counselor	09
Coordination or supervision	10
Total vocational program (administrator)	11
Related curriculum	12
Other (specify) ______________	13

2. What was your specific job title? ______________

3. What percentage of time did you spend on each of the following? (Must total 100%)

a. Administration or supervision	______	%
b. Coordination	______	%
c. Counseling	______	%
d. Vocational or technical teaching	______	%
e. Research	______	%
f. Other (specify) ______________	______	%
	100	%

4. Which one of the following best describes your tenure status at "that school"?

I was tenured	1
I was not tenured	2
I was on probationary status	3
School system did not offer tenure	4
School system offered tenure but not for specific positions	5
School system did offer tenure but not for my position	6
Other (specity) ______________	7

5. What was your school year salary the last year you were at "that school"?

\$ 3,000 – 4,999	01
\$ 5,000 – 6,999	02
\$ 7,000 – 8,999	03
\$ 9,000 – 10,999	04
\$11,000 – 12,999	05
\$13,000 – 14,999	06
\$15,000 – 16,999	07
\$17,000 – 18,999	08
\$19,000 – 20,999	09
\$21,000 – 22,999	10
\$23,000 or more	11

6. What was your contractual period?

9–10 months	1
11–12 months	2
Other (specify) ____________________	3

7. How many years had you been employed by "that school system"? ______ years

8. How many years had you been employed in the position you had when you left "that school system"? ______ years

To the nearest year, how long has it been since you left "that school"? ______ years

9. What did your predecessor––the one who held your job at "that school" immediately before you took it––do to vacate your job?

This was a new job, no predecessor	01
Predecessor died	02
Retired	03
Moved to another position within school	04
Returned to studies	05
Moved into business, industry, or self-employment	06
Took civil service job	07
Took employment in another school	08
On temporary leave	09
Other (specify) ____________________	10

(If you were an instructor at "that school," please answer the questions in the box below for the last year you were there. If not an instructor, go on to Q. 11, page 4.)

10a. What was your average class size? ______ students

b. How many contact hours did you have with classes each week?

Less than 11	1
11–17	2
18–24	3
25–31	4
32–38	5
Over 38	6

(If you were a counselor at "that school," please answer the questions in the box below. If you were not a counselor, go on to Q. 13 below the box.)

11. How many advisees or counselees did you have assigned to you each term? _______ Counselees

(The shading is used to direct your attention to the correct response column.)

12a. **How many credit hours have you earned in counseling?**

b. **How many credit hours have you earned in vocational guidance or counseling?**

None	1	1
1– 5	2	2
6–10	3	3
11–15	4	4
16–20	5	5
More than 20	6	6

13. Rate the importance of the following factors in your leaving the employment of "that school." *(Circle one number on each line. "NA" indicates "not applicable.")*

		Importance				
	NA	Low				High
Low salary	0	1	2	3	4	5
Little challenge in job	0	1	2	3	4	5
Little security or lack of tenure	0	1	2	3	4	5
Lack of student contact	0	1	2	3	4	5
Job assignment unreasonable	0	1	2	3	4	5
Lack of individual freedom	0	1	2	3	4	5
Job lacked prestige	0	1	2	3	4	5
School lacked prestige	0	1	2	3	4	5
Little chance for advancement	0	1	2	3	4	5
Problem with administration or colleagues	0	1	2	3	4	5
Didn't like geographic area	0	1	2	3	4	5
Too few friends or relatives near	0	1	2	3	4	5
Too far from "home" community or parents	0	1	2	3	4	5
Too far from spouse's "home" community or parents	0	1	2	3	4	5
Spouse's occupation	0	1	2	3	4	5
Pregnancy or health factors	0	1	2	3	4	5
Position eliminated or asked to leave	0	1	2	3	4	5
Other (specify) ______________________	0	1	2	3	4	5

(The shading is used to direct your attention to the correct response column.)

14a. **Which methods did you use** when looking for a job that resulted in your going to "that school"?

b. **Which method produced your job** at "that school"?

Friend, relative, or co-worker	01	01
Friend in the hiring institution	02	02
College placement office	03	03
Newspaper ad: position available	04	04
State employment agency	05	05
Personal letter of inquiry	06	06
Direct personal application	07	07
Professional magazine	08	08
Professional association	09	09
Commercial Employment agency	10	10
Did nothing and was recruited	11	11
Other (specify) ____________________	12	12

B. This section seeks information about what you did and where you went following your employment in "that school." *(Please circle one code number unless instructed otherwise.)*

---

15. Please describe your employment following your job at "that school." *(Please be specific. If no employment, list main activity, such as "returned to graduate school," "housewife," etc.)*

Job title: ____

Area of specialization: __________________________________

Type of institution: ____________________________________

16. Rate the importance of the following factors in your taking the employment described in the previous question. *(If no employment, skip to Q. 17, page 6. Circle one number on each line.)*

	Importance					
	NA	Low				High
Increase in salary	0	1	2	3	4	5
Preference for geographic area	0	1	2	3	4	5
Nearness of friends or relatives	0	1	2	3	4	5
Prestige of school	0	1	2	3	4	5
Prestige of position	0	1	2	3	4	5
Number of jobs available	0	1	2	3	4	5
Desire for experience or training	0	1	2	3	4	5
Individual freedom	0	1	2	3	4	5
Challenge	0	1	2	3	4	5
Security or tenure	0	1	2	3	4	5
More student contact	0	1	2	3	4	5
Part-time teaching	0	1	2	3	4	5
Chance for advancement	0	1	2	3	4	5
Philosophy of institution	0	1	2	3	4	5
Other (specify) ________________	0	1	2	3	4	5

17. In what size community do you work now?

Metropolitan area, (over 100,000)	1
or	
Suburb of metropolitan area	2
Town of 10,000 to 100,000	3
Town of 2,500 to 9,999	4
Town of less than 2,500	5
Farm or open country	6
Same community, did not move	7

18. What was the full-time equivalent enrollment of the school in which you were employed immediately following your employment at "that school"? *(If you were not employed by a school, continue with the next question.)*

Less than 250	1
250– 749	2
750–1,449	3
1,500–2,999	4
3,000–4,999	5
5,000–9,999	6
Over 10,000	7

19. What was your monthly salary change from the last year in "that school" to the job you held immediately after that?

Received less than at "that school"	1
0–$99 more	2
$100–199 more	3
$200–299 more	4
$300–399 more	5
$400–499 more	6
$500 or more	7

C. This section seeks information about your educational and occupational background. *(Circle one code number for each question unless instructed otherwise.)*

---

20. How many years of full-time noneducational work experience have you had? (Full-time means 30 hours a week or more, or time accepted by states or other institutions for certification or employment; do include summer work.)

Less than 1 year	1
1– 2 years	2
3– 4 years	3
5– 7 years	4
8–10 years	5
Over 10 years	6

21 a. **How many years of full-time employment have you had in educational institutions?**

b. **How many years of full-time employment have you had in vocational or technical education?**

Less than 5 years	1	1
6–10 years	2	2
11–15 years	3	3
16–20 years	4	4
More than 20 years	5	5

22. How many years of full-time noneducational work experience have you had in the area of specialization in which you are currently teaching? *(If you are not teaching, go on to the next question.)*

Less than 1 year	1
1– 2 years	2
3– 4 years	3
5– 7 years	4
8–10 years	5
Over 10 years	6

23. What was your major concentration of study in high school?

Vocational-technical	1
Commercial or business	2
College prep	3
General curriculum	4
Other (specify) ____________________	5

24. What was your major curriculum emphasis in your post-secondary undergraduate education?

Did not go to college	0
Vocational, industrial, or occupational (nonteaching)	1
Vocational, industrial, or occupational (teaching)	2
Academic or nonoccupational (nonteaching)	3
Academic or nonoccupational (teaching)	4

25. What is the highest level of formal education you have completed?

High school graduate	01
High school & formal apprenticeship schooling	02
Some college but no degree	03
Associate degree	04
Three year degree	05
B.A. or B.S. degree	06
M.A., M.S., or M.Ed. or equivalent degree	07
Six year degree	08
Ph.D. or Ed.D.	09
Other (specify) ____________________	10

26. Do you currently hold a state license with your state in an occupational area other than education? (Licensed engineer, nurse, broker, contractor, etc.)

Yes	1
No	2

27. What type of educational certificate or certificates do you currently possess? *(Circle code number of all which apply.)*

None	1
Temporary teaching certificate	2
Academic teaching certificate	3
Vocational teaching certificate	4
Counseling & guidance certificate	5
Supervision certificate	6
Administrative certificate	7
Other (specify) ____________________	8

(If you were an instructor in "that school," answer the questions in the box below. If you were not an instructor, go on to Q. 30.)

28. By what method did you acquire your teacher preparation? *(Circle one or more.)*

Part of teacher preparation program leading to teaching degree	1
Special courses or workshops not leading to vocational certificate	2
Special courses or workshops leading to vocational certificate	3
Informal, on-the-job training	4
Masters in Teaching following degree in specialized field	5
Special internship, (specify) ______	6
Other (specify) ______	7

29. What was the major method or methods by which you acquired your technical or vocational subject competencies? *(Circle one or more.)*

At home (e.g., farm)	01
Vocational program in high school	02
On-the-job training or work experience	03
Formal apprenticeship	04
In a vocational post-secondary program	05
In an academic post-secondary program	06
In a cooperative education or other part-time program	07
In a college teacher education program as a prospective teacher	08
In a four-year technical program	09
Other (specify) ______	10

30. If you were in military service, how was your service influential in your career?

Was not influential	1
Training in military in field in which you worked at "that school"	2
Teaching experience in military aroused interest in education	3
Other (specify) ______	4

31. Why did you choose to enter education as an occupation?

I always wanted to be an educator in my field	1
I could not get work in my skill area	2
I saw an existing need for an educator in my skill area, so I left other employment	3
I got interested in education through part-time teaching	4
I got interested in education through military teaching experience	5
Other (specify) ______	6

D. This section seeks information about professional identity and career development activities and plans. *(Circle one code number for each question unless instructed otherwise.)*

---

32. Toward which degree are you presently working?

None	0
Associate degree	1
Special 2 or 3 year degree	2
B.A. or B.S. degree	3
M.A., M.S. or M.Ed.	4
Six year degree	5
Ph.D. or Ed.D.	6
Other (specify) ______	7

33. Toward which professional certificate are you presently working?

None, (already have the certificate I want)	0
None, (none is required in my job)	1
Temporary teaching certificate	2
Academic teaching certificate	3
Vocational teaching certificate	4
Counseling & guidance certificate	5
Supervision certificate	6
Administrative certificate	7
Other (specify) ______________________________	8

34. Do you plan to enroll in any formal education courses or programs beyond your current involvement?

Yes	1
No	2
Not sure	3

35. Do people in your position tend to identify themselves as *(Circle one number for each item.)*

	Low Identity				High Identity
Vocational educators, counselors, or administrators	1	2	3	4	5
Technical educators, counselors, or administrators	1	2	3	4	5
Educators	1	2	3	4	5
Specialists in a field (example: "counselor" but not "vocational counselor", "nurse" but not "nurse educator", "auto mechanic" but not "auto mechanic instructor", "administrator" but not "vocational education administrator")	1	2	3	4	5
Other (specify) ______________________________	1	2	3	4	5

36. To which of the following organizations have you belonged in the past five years? *(Circle as many as apply.)*

American Vocational Association	1
State Vocational Association	2
State Vocational Association in your speciality area	3
National Education Association	4
State Education Association	5
American Federation of Teachers or United Federation of Teachers.	6
Other professional education association (specify) ______________________________	7

37. With which group of people do you associate more closely?

With persons in your specialty area but outside educational institutions (examples: welders, nurses, county agents (agriculture), cosmotologists, businessmen, chefs, truck drivers, etc.)	1
With persons in your specialty area who are in educational institutions (examples: instructors of nursing, welding, food services, distributive education; school counselors; school administrators)	2

38. How many different memberships have you held in the following types of organizations in the past five years? *(Please circle one number in each column.)*

	Professional Organizations			
	Local	State	Regional or National	Service, civic, political and religious organizations
	0	0	0	0
	1	1	1	1
	2	2	2	2
Number of memberships	3	3	3	3
	4	4	4	4
	5	5	5	5
	6	6	6	6
	7 or more	7 or more	7 or more	7 or more

39. What change in employment do you expect during the next five years?

Job title: ______________________________

Area of specialization: ______________________________

Type of institution: ______________________________

E. The following questions will help us group your responses with those of others in the study. One of the purposes of the study is to determine whether any differences in supply and demand occur that are related to sex, age, ethnic identity, or marital and family status. Again, this information like the rest will be kept confidential.

40. What is your sex?

Male	1
Female	2

41. In which year were you born?

Year of birth ______________

42. What is your ethnic background?

White	1
Black/Negro	2
Oriental	3
Spanish Surname	4
American Indian	5
Other (specify) ______________ .	6

43. What is your marital status?

Married, living with spouse	1
Single (widowed, divorced or separated, or never married) *(Skip to question 56.)*	2

44. If your spouse works for pay, what kind of work does he or she do? ______________________________

____

45. If you have children living at home, how many are there in each category?

Number of preschool . . . . ________

Number in elementary grades . . . . ________

Number in secondary school . . . . ________

Number above secondary school age . . . . ________

F. This group of questions asks about your home background.

46. In what kind of business or industry was your father or the male head of the house employed? ______________

47. What was his job title and what kind of work did he do? ______________

48. What was the highest level of education reached by your father or male head of the house and the highest level of education reached by your mother or female head of the house by the time you left high school?

	Father's Education	Mother's Education
I don't know	00	00
None, or some grade school	01	01
Completed grade school	02	02
Some high school but did not graduate	03	03
Graduated from high school	04	04
Vocational or business school after high school	05	05
Some junior or regular college but did not graduate	06	06
Two-year degree	07	07
Graduated from regular four-year college	08	08
Master's degree	09	09
Some work toward doctorate or professional degree	10	10
Completed doctorate or professional degree	11	11
Other (specify)______________	12	12

49. What was the size of the high school you attended for most or all of your high school education?

Less than 250 students	1
250– 749	2
750–1,449	3
1,500–3,000	4
More than 3,000	5

50. When you were a senior in high school, which occupation were you planning to enter?

Specify: ______________

51. In what size community was your high school located?

Metropolitan area, (over 100,000)	1
or	
Suburb of metropolitan area	2
Town of 10,000 to 100,000	3
Town of 2,500 to 9,999	4
Town of less than 2,500	5
Farm or open country	6

G. The items in this section are designed to gather information on geographic mobility and career sequence.

INSTRUCTIONS FOR COMPLETING MAP

1. On the map please locate as closely as possible the most important community or communities which you consider the "home" communities of your youth (before age 18) by placing a dot in the proper location(s) accompanied by the number "1".

2. Please locate as closely as possible the location of your spouse's "home" community(ies) by placing a dot in the proper place(s) accompanied by the number "2". (If no spouse, skip to the next instruction.)

3. As closely as possible, please identify the location of "that school" with a dot and the number "3".

4. Please locate with a dot and the number "4" where your parents live. (If your parents are deceased, please skip to the next instruction.)

5. Please locate with a dot and the number "5" where your spouse's parents live. (If deceased, please skip to the next instruction.)

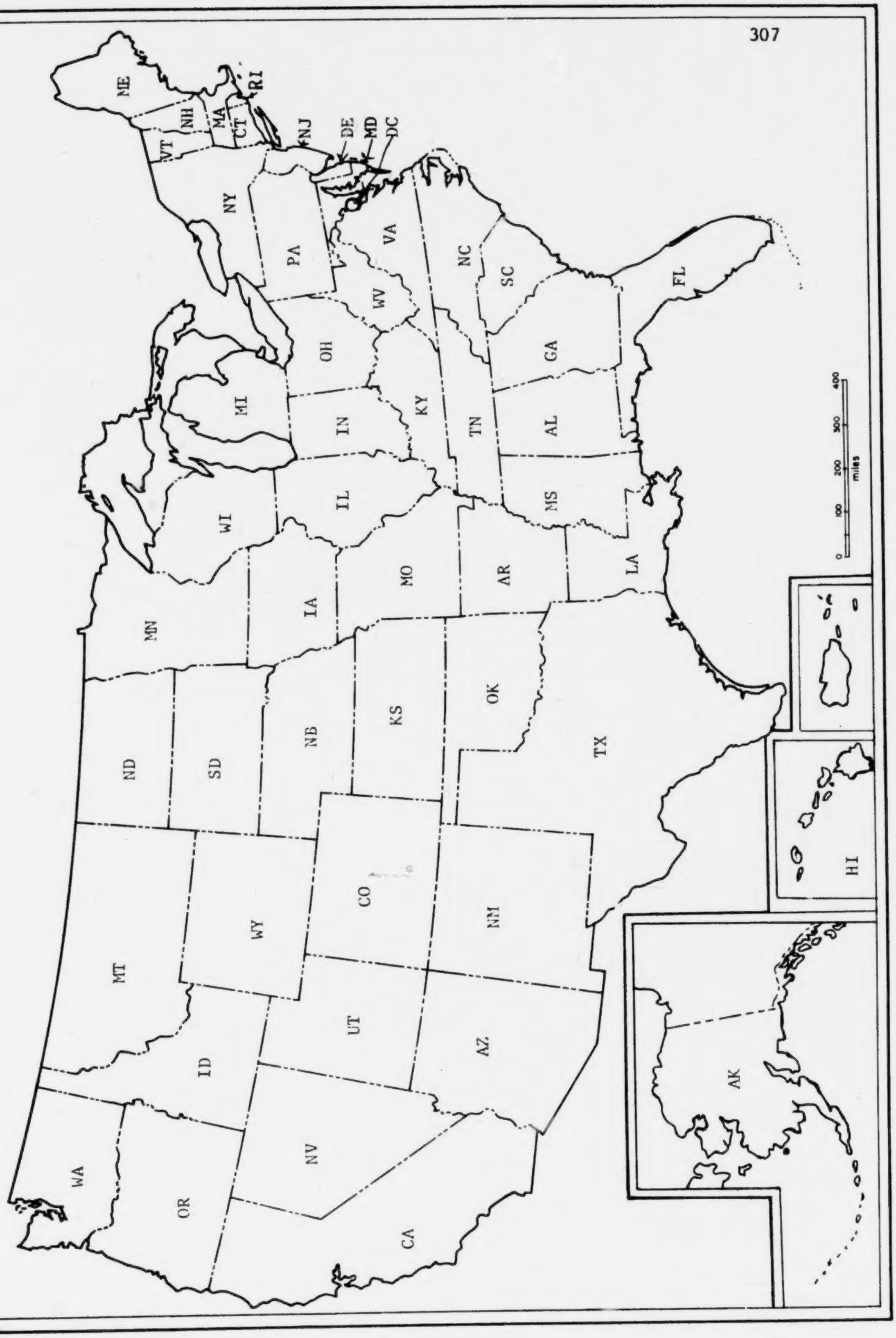
6. Please locate with a dot and the number "6" where you worked just prior to your current job.

7. Please locate with a dot and the number "7" where you held your first full-time job (excluding summer vacation work.)

8. Please locate with a dot and a number "8" where you received your undergraduate education. (If you have not attended college, skip to the next instruction.)

9. If you will still be in the labor force five years from now, where would you expect to be working? Please locate by circling the state, region, or exact location.

10. Please locate with a dot and the number "10" where you worked (or lived if you were not employed) following your job at "that school" (exclude short-term and summer vacation jobs).


ME
NH
VT
MA
CT
RI
NJ
DE
MD
DC
NY
PA
VA
WV
NC
SC
FL
GA
OH
MI
IN
KY
TN
AL
MS
IL
WI
MN
IA
MO
AR
LA
ND
SD
NB
KS
OK
TX
MT
WY
CO
NM
ID
UT
AZ
WA
OR
NV
CA
HI
AK
0
100
200
300
400
miles

INSTRUCTIONS FOR CAREER SEQUENCE CHART

1. In column B of the table, please list in sequence all major steps in your career. Please include all full-time occupations which you held for more than six months. Include part-time work and summer vacation work only if the experience affected your career.

   Also include all educational programs except summer institutes and workshops unless they were part of a degree program. Include apprenticeship and on-the-job training and military service and training but you need not list the state or country in which you served except for those locations in which you were stationed for at least one year.

2. In column A give the sequence number of the activity. If you did two things at the same time, such as going to college and working full-time, give them the same sequence number.
3. In column C list the state or country in which you did the activity.
4. The dates given in column D should be year-to-year dates.
5. Please place the total number of years to the nearest whole year in column E.
6. List all degrees and certificates (from programs of two or more courses) and give the major or field of study in column F.
7. If you are married, please circle the sequence number corresponding to the time when you got married.
8. Please note the following example:

CAREER SEQUENCE EXAMPLE

A. Seq. No.	B. Type of Activity (Be specific)	C. State	D. Date From-To	E. No. of Years	F. Degree/cert. Major
1	High school	Oregon	'50 -54	4	Gen. Curriculum
2	Navy - welding training	Pacific	'54 - 58	4	
③	Welder in industry	Californ.	'58 - 60	2	
4,5	Self-employed welder	Californ	'60 - 64	4	
5	College - 4 year.	Californ.	'63 - 67	4	BS/ Ind. Ed. State vocat. lic.
6	Welding instructor - Comp. High school	Oregon	'67 - 70	3	
7	Vocat. Coordinator - Same High School	Oregon	70 -	3	

CAREER SEQUENCE

A. Seq. No.	B. Type of Activity (Be specific)	C. State	D. Date From-To	E. No.of Years	F. Degree/cert. Major

Please add on the back page any information or comments which you think would be important in understanding your responses or which would be useful in the overall study of supply and demand.

THANK YOU FOR YOUR PARTICIPATION !

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

BUREAU OF EDUCATIONAL RESEARCH
288 EDUCATION BUILDING
URBANA, ILLINOIS 61801
AREA CODE 217 333-4382

January 25, 1973

Dear Sir:

The Bureau of Educational Research of the University of Illinois is conducting an important national survey of vocational-technical educators to determine some of the factors related to the labor markets for various types of vocational education leadership personnel. This study is supported by the Board of Vocational Education and Rehabilitation of the state of Illinois, and uses funds supplied by the United States Office of Education.

More specifically, the survey will attempt to identify the ways in which supply and demand of vocational education personnel are affected by such factors as mobility, hiring practices, certification, age, tenure, socio-economic class, availability of competing labor markets, and career ladders and lattices. One outcome of the information gathered will be a correspondence course carrying university credit designed to help the participant relate more positively to leadership in occupational education. The basic goal is to improve ways of identifying and educating personnel to provide more and better vocational-technical education.

We believe this to be the first national study of its kind directed exclusively toward vocational-technical educators. As your institution was selected in a stratified random sample, we request your help in identifying and preparing a list of all full-time personnel in your institution whose assignments are 50 percent or more in the area of vocational or technical education as instructor, coordinator, counselor, or administrator. When we receive the list we will bulk-mail a package of questionnaires for the educators on the list, and ask you to distribute them to the appropriate personnel. (If your institution has a large vocational and/or technical program, we will randomly select from your list and send questionnaires to a maximum of thirty individuals.) Or, if you prefer, we could send the questionnaires to the individuals directly. In either case, a self-addressed, stamped envelope will be enclosed so each respondent can return the instrument to us directly. The instrument takes about thirty minutes to complete. Information obtained from your institution and from the questionnaires will be kept strictly confidential.

We recognize that you have a busy schedule, but we hope you will find time soon to fill out the information on the enclosed sheet and have your secretary prepare a list, being sure to distinguish between (1) administrators (50 percent or more time) and (2) instructors, coordinators, and counselors in your vocational or technical program. The list may be prepared on the enclosed sheet or may be a list you already have. Please return the list and the information as soon as possible as government deadlines require an early response. If, for some reason, you choose not to participate, please notify us by return mail so we might choose an alternate. Should you have a question or need further explanation, please write or call Emerson Wiens or myself at the address in the letterhead.

Your help in making this study a success will be greatly appreciated. Your institution will receive a copy of the full report upon completion of the study. We are sure you will find the results both informative and useful.

Respectfully yours,

Rupert N. Evans
Professor of Vocational
and Technical Education

RNE:sl

Enclosure

Name of school ______________________________

Name and title of reporting officer ______________________________

Street address of school ______________________________

City, state, & zip code ______________________________

Phone number ______________________________

List I

Instructors, counselors, and coordinators

1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________
5. ______________________________
6. ______________________________
7. ______________________________
8. ______________________________
9. ______________________________
10. ______________________________
11. ______________________________
12. ______________________________
13. ______________________________
14. ______________________________
15. ______________________________
16. ______________________________
17. ______________________________
18. ______________________________
19. ______________________________
20. ______________________________

Level of School:

Secondary ☐

Post-secondary ☐

Combined sec. & post-sec. ☐

Type of School:

Regular or comprehensive high school ☐

Vocational or technical school ☐

Junior or community college ☐

4-year college or university ☐

Other, specify

____

List II

Administrators

1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________
5. ______________________________
6. ______________________________
7. ______________________________
8. ______________________________

If additional space is needed please use an additional sheet.

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

BUREAU OF EDUCATIONAL RESEARCH
288 EDUCATION BUILDING
URBANA, ILLINOIS 61801
AREA CODE 217 333-3023

January 2, 1973

Dear Administrator:

In a letter you received in November, we asked for your participation in a national study of factors that influence the supply of and demand for vocational/technical educators. The basic goal is to improve ways of identifying and educating personnel to provide more and better occupational education. As you may recall, the study is financed by the U.S. Office of Education through the Illinois Board of Vocational Education and Rehabilitation. We requested from you a list of all full-time faculty, coordinators, counselors, and administrators who are employed 50 percent time or more in the area of vocational, technical or occupational education.

We have not yet received a list from you and are still hoping you will become a participant. When we prepared our random sample, we stratified or divided the schools available by type of school, size of school, and by region of the country. Hence, each school drawn represents a number of similar schools and is quite important in the sample.

Since the study has government time limits imposed on it, it is necessary to confirm the participants as soon as possible. Please give this your immediate attention. We want you as a participant but if you cannot or wish not to participate, let us know immediately so we might select an alternate.

We recognize that this is a busy season for you. But our time contraints require an immediate response. We sincerely hope you will find time to send us the list requested so we may send out the questionnaires. If you have already sent the list, please disregard this letter. Thank you for your assistance.

Sincerely yours,

Rupert N. Evans
Professor of Vocational
and Technical Education

RNE:sl

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

BUREAU OF EDUCATIONAL RESEARCH
288 EDUCATION BUILDING
URBANA, ILLINOIS 61801
AREA CODE 217 333-3023

HEY, WE GOOFED!

You recently completed a questionnaire focusing on the supply and demand for vocational and technical educators. We meant to ask for the full-time enrollment of your institution since we intended to do some comparisons of different size schools. Would you please write down the full-time equivalent enrollment of your institution on the enclosed card and drop it into the mail today? If your school is a part of a larger system, please give full-time equivalent enrollment of your institution only. Please qualify your answer if your situation is unique.

Thank you and your staff for your participation in this study. We look forward to the completion of the study when we will send you a copy of the results.

A. Emerson Wiens
Research Assistant to
Rupert N. Evans

AEW:sl

School ______

Code ______

Full-time equivalent enrollment of your institution is ________________.

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

BUREAU OF EDUCATIONAL RESEARCH
288 EDUCATION BUILDING
URBANA, ILLINOIS 61801
AREA CODE 217 333-3023

Several weeks ago you were asked to complete a questionnaire concerning the vocational and/or technical education program in your institution. As you may recall, the instrument was part of a study of factors that influence the labor market of occupational educators. To date we have no record of having received your questionnaire. We know that the instrument may have gotten lost in the mail or, for that matter, in our office although we take every precaution to avoid misplacement. We also know that you have a demanding position which leaves you little time for answering questionnaires.

However, your response is very important for our study because (1) the information on your questionnaire helps us to get a picture of the job turnover of occupational educators across the country, and (2) it supplies basic information about your institution and community which is necessary for analyzing the responses which have been received already from the occupational educators in your institution. You may feel that some of the questions are not appropriate to your situation because of the size or composition of your program. This may well be true, but we hope you will still respond in the way which best describes and explains your situation. If you have completed the questionnaire and returned it more than two weeks ago, we assume it must have gotten lost or misplaced and request that you complete and return the enclosed questionnaire(s). We sincerely apologize for this inconvenience, but hope you will respond soon, as government deadlines are upon us.

You should be able to complete the blue questionnaire in five minutes or a bit more depending on the size of your program. We thank you for your assistance in allowing your school to participate in the study and for your completion of the questionnaire(s). If you have recently returned the questionnaire, please disregard this request.

Sincerely yours,

Rupert N. Evans
Professor of Vocational
and Technical Education

RNE:sl

Enclosure

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

BUREAU OF EDUCATIONAL RESEARCH
288 EDUCATION BUILDING
URBANA, ILLINOIS 61801
AREA CODE 217 333-3023

February 9, 1973

Dear Administrator:

Several weeks ago you completed a questionnaire for a survey designed to study the factors that influence the supply of and demand for vocational-technical educators. As a part of that study, some vocational-technical educators who have left the schools in the study are being traced and interviewed to determine what changes they have made in employment and some of the factors that influenced their decisions to change. The basic goal is to increase our understanding of the labor market of vocational-technical education so that ways of identifying, educating, and utilizing personnel for more and better vocational-technical education can be improved.

In the questionnaire you completed, you indicated that you could provide the names and addresses of the vocational-technical educators who had left the employment of your school during the past five years. We would appreciate your assistance in listing as completely as possible, the names, addresses, and telephone numbers of all those full-time instructors, coordinators, counselors, and administrators whose assignment was 50 percent or more time in vocational or technical education who have left your employment in the last five years but were not retired. Please use the enclosed form and envelope for this purpose.

Thank you for your participation in this study; your completion of the earlier instrument as well as your help in preparing this list is appreciated.

Sincerely yours,

Rupert N. Evans
Professor of Vocational
and Technical Education

RNE:sl

Enclosure

Code ______

______

Vocational/Technical Instructors, Coordinators, Counselors, and Administrators Who Have Left Your Institution During The Last Five Years

1. Name: ____________________
   Address ____________________
   ____
   Phone ____________________

2. Name: ____________________
   Address ____________________
   ____
   Phone ____________________

3. Name: ____________________
   Address ____________________
   ____
   Phone ____________________

4. Name: ____________________
   Address ____________________
   ____
   Phone ____________________

5. Name: ____________________
   Address ____________________
   ____
   Phone ____________________

6. Name: ____________________
   Address ____________________
   ____
   Phone ____________________

7. Name: ____________________
   Address ____________________
   ____
   Phone ____________________

8. Name: ____________________
   Address ____________________
   ____
   Phone ____________________

9. Name: ____________________
   Address ____________________
   ____
   Phone ____________________

10. Name: ____________________
    Address ____________________
    ____
    Phone ____________________

(If needed, add additional names on another sheet.)

Dear Educator:

Several weeks ago you were asked to participate in a national study of factors that influence the supply of and demand for vocational/technical educators. To date, we have not received the completed questionnaire from you. Since the sample of schools chosen for the study represented different *types* and *sizes* of institutions as well as different *regions* of the country, your school and your participation *are very important*. Hence, we encourage you to become a part of the study and contribute to an understanding of the labor market of vocational educators by completing and returning the questionnaire soon so we might meet government deadlines. Thank you for your cooperation. (If you have recently returned the questionnaire, please disregard this notice.)

Sincerely,

Rupert N. Evans
Professor of Vocational
and Technical Education

217-333-8059
Bureau of Educational Research
University of Illinois

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

BUREAU OF EDUCATIONAL RESEARCH
288 EDUCATION BUILDING
URBANA, ILLINOIS 61801
AREA CODE 217 333-3023

Dear Educator:

Several weeks ago you were invited to participate in a national study of vocational and technical educators. To date, we have not received the questionnaire which we sent to you. We recognize that one of several things has happened: the questionnaire was lost in the mail; the questionnaire was not distributed to you within your school (most schools were sent a bulk package of questionnaires for distribution); you did not find time to complete the instrument; the questionnaire was misplaced in our office.

Since we have no way of knowing whether you received the questionnaire, we are enclosing a second questionnaire with this letter and requesting your participation in the study.

Your response is of importance in the study because the schools chosen for the study represented different types and sizes of vocational programs as well as different regions of the country. Therefore, you represent a number of other persons in similar programs in your state and region. Furthermore, a good representation of individuals from programs the size of yours (seven or fewer full-time instructors) is necessary since, among other aspects of the study, we will investigate the differences in the way occupational educators of large and small programs relate to the labor market.

Hence, we encourage you to save us further follow-up costs and contribute to an understanding of the factors that affect the supply of and demand for occupational educators by completing and returning the questionnaire at your earliest convenience as deadlines are upon us. (If you have recently returned the first questionnaire, please disregard this notice and keep the questionnaire for your files or discard it.)

We sincerely appreciate your assistance. Should you have any questions, do not hesitate to write or call Emerson Wiens or me at the address in the letterhead.

Sincerely yours,

Rupert N. Evans
Professor of Vocational
and Technical Education

RNE:sl

Enclosure

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

BUREAU OF EDUCATIONAL RESEARCH
288 EDUCATION BUILDING
URBANA, ILLINOIS 61801
AREA CODE 217 333-3023

May 7, 1973

Dear Educator or Former Educator:

Several weeks ago you were invited to participate in a national study of vocational and technical educators. The study was designed to explore the affects of supply and demand factors such as mobility, availability of competing labor markets, and career patterns on the labor market of occupational educators. (More detail on the study is given in the cover letter of the questionnaire.) As you may recall, you were identified as one of those who had left an institution in the study during the last five years. If you received and read the cover letter to the first questionnaire you will remember that the main study had a population of about 4,000 educators from almost 300 schools across the country. The follow-up of "leavers" of which you are a part, has a population of less than 300 individuals. Therefore, your reply is needed.

Since we have not received a response from you at this date, we are sending this letter to remind you of the importance of your participation in the study. We know that the address which we have for you may not be correct, and you may not have received the first questionnaire. Hence, we are enclosing another copy of the questionnaire. Please don't feel that what you have done since you have left the institution in our study would be of little importance in the study. Regardless of whether you stayed in education, went into other employment, became self-employed, retired, became a full-time housewife, or returned to college, your response is an important part of this national study.

We would sincerely appreciate your completion and return of the questionnaire soon as government deadlines are upon us. Should you have any questions, do not hesitate to write or call Emerson Wiens or me at the address in the letterhead. If you have recently returned the questionnaire, please disregard this notice. Again, we remind you that your responses will be treated as anonymous data.

Incidently, if our address for you is incorrect and you would like a copy of the study summary, please include your corrected address with the questionnaire. Thank you for your assistance.

Sincerely yours,

Rupert N. Evans
Professor of Vocational
and Technical Education

RNE:sl

APPENDIX D

DATA RECORDING AND PROCESSING

While the majority of the data collected was directly transferable to punched cards, several items required special coding or interpretation. First, the map on page 13 (Appendix C) of the "individuals" and "leavers" questionnaires was used to provide information regarding distances between places. A transparent plastic sheet with scribed concentric circles representing scaled distances from the center was used to facilitate data collection and coding.

The career sequence on page 15 (Appendix C) of the "individuals" and "leavers" questionnaires also had to be coded into a form that could be analyzed in a meaningful way. Of interest here were not only the elements -- related work, educational training, nonrelated work, educational employment, etc. -- but also the sequence or order in which they took place. The career sequence was recorded in two forms: a "long sequence" which detailed every change of activity; a "short sequence" which summarized the sequence of the individual's career prior to his or her entering vocational education. Only the latter was utilized in this study. In addition to recording the sequence, several other bits of information were obtained including the number of years since the last related noneducational employment and the number of educational jobs. The procedure and codes used for recording the career sequence as well as the additional information gathered from this part of the survey instrument are described in Appendix D. A more exhaustive study of the long career sequence and its relationship to mobility was being undertaken by Taweewat Pitayanon at the time of this writing, under the direction of Dr. Lawrence Aleamoni of the University of Illinois.

An index of occupational classification and of socioeconomic status (SES) was used to code the father's occupation in the questionnaires. Questions 44 and 45 in the "individuals" questionnaire (questions 46 and 47 in the "leavers" questionnaire) sought information which would permit the classification of the occupation of the respondent's father. The occupational title indices used were prepared by Bureau of the Census and were the most current and extensive available, listing over 19,000 industry and 23,000 occupational titles (Bureau of Census, 1961, 1971). The major categories listed by the Census index are:

I. Professional, Technical, and Kindred Workers
II. Managers, Officials and Proprietors, Except Farm
III. Clerical and Kindred Workers
IV. Sales Workers
V. Craftsmen, Foremen, and Kindred Workers
VI. Operatives and Kindred Workers
VII. Service Workers, Except Private Household
VIII. Private Household Workers
IX. Farmers and Farm Managers (Not Laborers & Foremen)
X. Farm Laborers and Foremen
XI. Laborers, Except Farm and Mine

However, since the number of respondents in some of the areas of specialization was relatively low, these eleven categories of father's occupation produced some low and empty cells. Consequently, respondents whose fathers were or had been in occupational group I, II, III, or IV were considered to have had fathers with "white collar" jobs, while respondents whose fathers were or had been in occupational group V, VI, VII, VIII, or XI were considered to have had fathers with "blue collar" occupations. Categories IX and X were combined for all fathers whose major work was farm work.

The area of specialization (question 1 on the "individuals" and "leavers" questionnaires) required some interpretation and some regrouping. Coordinators, supervisors, and administrators who were assigned half-time or more in one field were combined with the instructors in that field. Hence, those respondents who were categorized as administrators in the analysis were those whose administrative assignments were more than half-time in the total program or, in more than one area of specialization. Several other areas of specialization were combined following the Office of Education "Instructional Codes and Titles" (see Appendix B): business and office occupations were combined with the distributive occupational area; the home economics and home making categories were combined with the personal and public service category. However, the category of technical educator was added since a sizable number of persons identified themselves as such. Technical education is generally considered to exist at the post-secondary level, an assumption which appears to be confirmed by the data in Table 4.2 which indicates that 104 of the 111 technical educators were found in college programs; the remainder were situated in specialized vocational schools some of which may have been post-secondary. All respondents who were not full-time employees or who were not employed 50 percent or more time in occupational education were excluded from the population and the study.

The adjusted monthly income (variable 32 in Appendix B) was calculated from questions 5 and 6 on the "individuals" and "leavers" questionnaires. The annual salary indicated in question 5 was divided by the central point of the contract period indicated in question 6. This procedure was selected on the assumption that most educators are hired for either a school-year or a full year.

CAREER SEQUENCE CODE SHEET

EDUCATION

	code	
Jr. College	1.	Attended
	2.	Graduated (Diploma, certificate, or AA degree)
Tech., business or nursing school	3.	Attended
	4.	Graduated
Sr. Col. or Univ.	5.	Attended
	6.	Graduated (BS, BA)
	7.	Master's program - not completed
	8.	Master's degree completed (MS,MA)
	9.	Specialist or doctorate - not completed
	10.	Specialist or doctorate - completed (Ph.D., Ed.D., Ed.S.)

EMPLOYMENT

Non-educational	11.	Self-employed - related
	12.	Employee - related
	13.	Military - related (see q. 30)
	14.	Self-employed - not related
	15.	Employee - not related
	16.	Military - not related (see q. 30)
Educational		
	17.	Elementary school position
1. High school	18.	Vocational teaching
	19.	Nonvocational teaching
	20.	Nonteaching position
2. Specialized Voc. school	21.	Vocational teaching
	27.	Related teaching
	22.	Nonvocational teaching
	23.	Nonteaching
3. Junior/senior college	24.	Vocational teaching
	25.	Nonvocational teaching
	26.	Nonteaching
	28.	Educational job, not in school

PART-TIME & UNEMPLOYED

			Degree completed:			Ph.D., Ed.D., Sp.Ed.
	51.	Housewife, unemployed, travel				
Part-time teaching	52.	Housewife + teaching				
	53.	Related job + teaching				
	54.	Nonrelated job + teaching				
Part-time study	55.	Rel. job + study	75. AA	60. BS	65. MS	70. Ph.D.
	56.	Nonrel. job + study	76. AA	61. BS	66. MS	71. Ph.D.
	57.	Voc. teach. + study	77. AA	62. BS	67. MS	72. Ph.D.
	58.	Nonvoc. teach. + study	78. AA	63. BS	68. MS	73. Ph.D.
	59.	Nonteach. + study	79. AA	64. BS	69. MS	74. Ph.D.
	80.	Rel. teach. + study	84. AA	81. BS	82. MS	83. Ph.D.

Years in noned. occup.		Years since last related noned. occup.		Number of ed. jobs		Number of yrs. in ed. jobs	
73	74	75	76	77	78	79	80

CAREER SEQUENCE CODING - FURTHER NOTES ON CODING COLUMNS 73 THROUGH 76.

Years in noned. occup.		Years since last related noned. work	
73	74	75	76

Interpretation:

1. Part-time work is always considered as half-time. So, two years of part-time work would equal one year of full-time for columns 73-74.

2. Any work is considered "related" for general vocational administrator, counselor, and related curriculum instructor. Military experience would be considered related for this group.

3. Military experience would not be considered related work for vocational teachers unless they describe the work in the military and it appears related, or, if they respond positively on question 30.

4. It is possible for vocational teachers to have a number of years of noneducational work experience that is not related to their present teaching area. For example, a man may have been a car salesman for 5 years and is now a welding instructor. If the car salesman job was the only noneducational job the person had, a code number "88" would be used in columns 75 and 76:

0	5	8	8
73	74	75	76

Compare to:

0	0	0	0
73	74	75	76

which means "no noneducational job experience."

and

9	9	9	9
73	74	75	76

which means "no response" at all

5. An individual who claims to have grown-up on a farm or ranch and helped farm or ranch will be given two years of noneducational work experience for work experience prior to high school graduation. If an agriculture instructor is presently farming or ranching, his farm or ranch time while teaching would be considered half-time for columns 73 and 74; however, columns 75 and 76 would have "0 0" placed in them since it is zero years since the person had noneducational related work experience. The same designation would be used for someone who does related work each summer.

CAREER SEQUENCE CODING - FURTHER NOTES ON CODING COLUMNS 73 THROUGH 76.

"Industrial Arts"

In question 1, if person circles 06, consider him vocational even if he gives his title as industrial arts teacher.

In the career sequence, however, if he says he was an industrial arts teacher in a high school, consider the job nonvocational teaching unless he indicates that he got a vocational certificate prior to that time.

Military Service

Military service is considered related vocational experience for administrators, counselors, and related instructors, regardless of how the person answers question 30. Training or experience in the military is not considered related for vocational teachers unless they indicate it in question 30 or the description of the experience in the career sequence indicates a relationship in your opinion.

Note the following:

Years in noned. occup.		Years since last noned. occup.	
73	74	75	76

Number of ed. jobs		Number of yrs. in ed. jobs	
77	78	79	80

PRESENT JOB AND EXPECTED JOB

FOR LEAVERS ONLY

Q. 15 (variables 293 - 296)
Q. 39 (variables 298 - 301)

VARIABLES 293, 294 TYPE OF WORK (298, 299)

Educational area

101 Instructor - same field
102 Instructor - diff. field, voc.
103 Instructor - diff. field, nonvoc.
104 Coordinator - same field
105 Coordinator - diff. field, voc.
106 Counselor, Psychologist
107 Adm., supervisor - same field
108 Adm., supervisor - diff. field, voc.
109 Adm., total program, voc.
110 Adm., nonvoc.
112 Consultant, specialist, voc.-state
113 Teacher educator

Noneducational categories

Unrel		Related	
320	-	220	Professional
321	-	221	Managers, officials
322	-	222	Engineers
323	-	223	Technicians
324	-	224	Sales people
325	-	225	Foremen, craftsmen, mechanics, construction contractors
326	-	226	Service workers
327	-	227	Farmer, rancher
328	-	228	Laborer

No paid employment

430 Housewife
431 Retired
432 Travel

Educational

535 Undergraduate school
536 Graduate school

VARIABLE 295 TYPE OF INST. (300)

Educational

01 Elementary
02 Middle, Intermed
03 Jr., Sr. High School
04 Vocat. school or institute
05 Junior college
06 Sr. college, university
07 State dept. of voc. ed.
08 Fed gov't school, institution

Noneducational

10 Manufacturing, construction
11 Business - nonmanufacturing
12 Gov't, political appt.
13 Hospital
14 Church, charitable org.
00 NA

VARIABLE 296 EMPLOYMENT STATUS (301)

0 NA
1 Self-employed
2 Part-time employment
3 Employee

199999 Change anticipated - EDUC
299999 Change anticipated - NONEDUC
899999 Not sure
000000 No change
999999 No answer

APPENDIX E

SURVEY PROCEDURE

The survey procedures followed in the full-scale study were similar to those developed in the pilot study.

1. A letter was sent to an administrator in each school drawn in the sample, describing the study and asking for a list of all full-time instructors, counselors, coordinators, and administrators who were assigned 50 percent or more time to vocational or technical education. The contact person was also asked to indicate his willingness to distribute the questionnaires when he received them.
2. A follow-up letter was sent to the nonresponding schools about six weeks after the initial mailing. The Christmas and New Year holidays had intervened and delayed the sending of the follow-up letters by a few days in some cases.
3. If the administrator preferred to have the school excluded from the study or did not respond within three weeks after the follow-up letter, another school in the same category and region was selected randomly and step one was repeated.

   If the list received contained more than 30 names, it was reduced to 30 by random selection. In the case of a large school in which the job titles of the staff members were given, the selection of 30 was done in a stratified manner to assure representation from the variety of programs offered by the respective institution.
4. Each subject in the final list was assigned a code number and the questionnaires were coded and prepared for mailing. One "administrators" questionnaire was sent to an administrator in each school.

"Individual" questionnaires were sent to all occupational educators selected according to steps two and three. Over 90 percent of the instruments were sent in bulk packages to administrators or other contact persons in the schools who had agreed to distribute them. This arrangement was used because (1) it effected a considerable saving on postage, and (2) a higher rate of return was anticipated from those schools where the questionnaires were distributed by an administrator. The remaining questionnaires were sent individually. In both cases, a return-addressed envelope with postage prepaid was included so the completed instrument would not go through the hands of another party, a procedure that might have influenced the educators to bias their responses.

Another technique that was used to encourage a higher completion rate was the stapling of a packet of instant coffee to each questionnaire with a note inviting the subject to have a cup of coffee while completing the questionnaire. This technique was used since it is known that national surveys do not fare well (58 percent response for Kay, 1970, p. 2), and the use of a 17 page instrument, it was assumed, would further jeopardize the goal of a 65 percent return. This goal was deemed necessary for every cell[1] to assure an adequately representative group of respondents, and to assure reaching the 2 percent sampling of occupational educators desired. A 100 percent return of the "school" questionnaires was necessary, however, since they requested information to be used with all individual responses from the respective schools.

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[1] Twenty-seven cells exist in the study. A cell refers to a type of school in a specific region, e.g., high schools in Region II constitutes one cell. Table 2, Appendix A, is arranged by cells.

5. Since the timing of the distribution of the questionnaires that were sent in bulk to the schools was not known, no follow-up cards were sent in most cases until a questionnaire was received from the school, indicating that distribution had taken place. This procedure was not followed in two situations: when no questionnaires were received within three weeks after the initial mailing, and when the school was small, having less than four subjects. In the first of these two situations, the follow-up reminders were sent only to the person responsible for the distribution of the questionnaires; in the second case, the follow-up cards were sent to all subjects after three weeks even if no questionnaire had been received.

   Those persons who received the questionnaires directly were sent card reminders two to three weeks after the initial mailing. Occasionally, administrators were extremely slow in distributing the instruments. In those cases, an additional effort was made to encourage prompt cooperation. A letter was sent, and, if no response was received, a telephone call was made.

6. Two to three weeks after the card reminders were sent, a reminder letter with another questionnaire and return envelope was sent directly to the nonrespondents. Copies of follow-up cards and letters are appended in Appendix C.

7. Original plans included a telephone follow-up of a random sample of nonrespondents in those cells with less than 65 percent return. However, with all cells exceeding 65 percent, this step was considered unnecessary except for the "administrators" questionnaires of which 100 percent were required. One piece of important information about the school--full-time equivalent enrollment--had been omitted

by error from the "administrators" questionnaire, and a follow-up letter was sent to request this information.

8. The administrator completing the "administrators" questionnaire was asked if he or she could supply the names and addresses of the occupational educators who had left employment at his or her school for reasons other than retirement within the last five years. A form on which to list the "leavers" and a stamped, return-addressed envelope were sent to all administrators who responded in the affirmative.

9. Questionnaires with cover letters and return envelopes were sent to all the "leavers." Address-correction forms were requested through the postal service so follow-up could be done of nonrespondents who had received a forwarded instrument. As expected, some addresses were obsolete and no longer forwardable. These subjects were excluded from the population.

10. Three weeks after the initial mailing, follow-up letters were sent to all nonresponding "leavers" whose addresses could be determined. Two weeks later, another letter along with another copy of the questionnaire and a return envelope was mailed to the remaining nonrespondents.

11. When completed "individual" questionnaires were received, they were examined immediately to ascertain whether the respondents met the definition established for "occupational educators." If they did not meet the criteria, i.e., if they were part-time or less than 50 percent in occupational education, they were excluded from the sample.

    "Leavers" questionnaires were examined for the same purpose. If the "leaver" retired upon leaving employment at the school in the study, he or she was also excluded from the "leavers" sample.

VITA

Arnold Emerson Wiens was born in Hillsboro, Kansas on December 29, 1935. He graduated from Hillsboro High School in 1954 and attended Tabor College in Hillsboro for a semester after which he worked as a welder in a local industry. In the fall of 1955, Mr. Wiens moved to Denver, Colorado, where he was employed as a maintenance engineer at St. Luke's Hospital. He returned to Kansas in the fall of 1957 and attended Bethel College in North Newton where he graduated with Highest Distinction in 1960 with a Bachelor of Science degree in Industrial Arts Education. Mr. Wiens then served as seventh and eighth grade teacher of all subjects in a newly consolidated rural school, Golden Plains, near North Newton. He held this position for three years, also serving as acting principal for one year. During the 1963-1964 school year, he taught metalwork and drafting at Halstead, Kansas, High School, after which he was asked to join the staff at Bethel College as industrial arts education instructor, a position he currently holds. Mr. Wiens received a Master of Arts degree from Colorado State College in Greeley in 1967 after graduate work at Kansas State Teachers College of Emporia. His thesis was an evaluation of the Industrial Arts Department at Bethel College.

In 1971, Mr. Wiens was named a University Fellow in Education at the University of Illinois at Urbana-Champaign. While on leave from Bethel College, he pursued a doctoral program in the Department of Vocational and Technical Education at the University of Illinois from 1971 through 1973. He also held a teaching assistantship in the Department for a year and was appointed Graduate Research Assistant in the Bureau of Educational Research for the 1972-1973 year where he was codirector of a federal and state funded national study of the labor market of occupational educators. He returned to Bethel

College in the fall of 1973 as Chairman of the Applied Science Division, Head of Industrial Arts Education, Director of Continuing Education, and coordinator of a federal grant for a six college consortium, the Associated Colleges of Central Kansas.

Mr. Wiens is a member of the American Industrial Arts Association, the American Council of Industrial Arts Teacher Education, Phi Delta Kappa, and Epsilon Pi Tau; he is a Danforth Associate and is current chairman of the Kansas Industrial Teacher Education Council.